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The Cover Shot

This photo of Neuschwanstein Castle, one of the most popular tourist attractions in Germany, was taken in August 2022. The castle was in the southern part of Germany near the Austrian border, a three-hour road journey from Munich. The best shots of the castle are taken from the Queen Mary's Bridge, a pedestrian bridge running over the Pöllat river. The construction of the castle began in 1869; the castle was intended to be a private residence for the King but was opened to become a tourist attraction shortly after the death of King Ludwig II in 1886. This fairy-tale castle may look familiar to most of us, as it served as the inspiration for Disneyland's Sleeping Beauty Castle.

Dr Adrian KC CHENG
MBBS(HK), MRCP(UK), FHKCP, FHKAM(Medicine)
Specialist in Geriatric Medicine

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New Era for Managing Skin Diseases

Dr Chi-keung YEUNG

President, Hong Kong College of Dermatologists

Editor

Dr Chi-keung YEUNG

Our College is excited to take this opportunity to share with readers the key updates on skin disease management. Skin problems are commonly seen in a wide scope of clinical practice. Although most skin conditions run a relatively mild course, some conditions can be potentially life-threatening and some impose a significant negative impact on patients' quality of life and psychosocial well-being.

Skin is a highly complex immune organ and is subject to immune attacks resulting from various autoimmune diseases, including psoriasis, immune-mediated blistering diseases and hypersensitivity reactions, such as vaccine reaction and Stevens-Johnson syndrome (SJS). Advances in clinical and basic scientific research have enhanced our understanding of the immunopathogenesis of many important and devastating skin conditions, leading to a paradigm shift in treating immune-mediated skin diseases from the use of topical corticosteroid and conventional systemic agents to the use of various biologic agents and small molecules. The more precise and specific immune modulation using monoclonal antibodies and JAK inhibitors has led to more efficacious therapies with fewer adverse effects, hence better outcomes for the patients. The raised benchmark of achieving nearly clear or completely clear skin in psoriasis with the use of biologics has enabled our patients to enjoy a normal or near normal life.

This issue of Dermatology will update the readers on the current developments and changes in the treatment pattern in some of the common and uncommon skin diseases. We are pleased to have invited experienced dermatologists in their respective fields to contribute articles covering contemporary topics on the key advances in management. Dr Gavin Chan shared his experience on the means and ways to detect and screen skin cancers at early stages so as to improve the prognosis of malignant neoplasms. Dr Mandy Chan updated us on the use of rituximab to treat pemphigus. Consultant dermatologists of Hospital Authority, Dr Christina Cheung and Dr Christina Wong have provided us, respectively, an update on the management of SJS, which is a serious drug hypersensitivity skin reaction and an informative review on skin eruptions resulting from COVID vaccination. Dr Ho King-man, the former consultant-in-charge of the Social Hygiene Service has done an important overview of the current management landscape of moderate to severe psoriasis in the context of the introduction of biologic agents in the public sectors. Dr Martin Chung has nicely written an interesting case series on classical skin manifestations of infectious diseases, highlighting the importance of recognising the cutaneous signs in clinical medicine.

Dr Leung Sze-kee, our former President of the College, has kindly shared his joy of coming across interesting and enlightening books for leisure reading, and Dr Adrian Cheng has contributed his photo of beautiful scenery in Germany during his precious vacation in Europe this summer as the cover photo of this issue. I would like to express my sincere gratitude to all the contributing authors for their hard work and invaluable support and sincerely hope the readers of Hong Kong Medical Diary enjoy this issue of updates on skin disease and its management.

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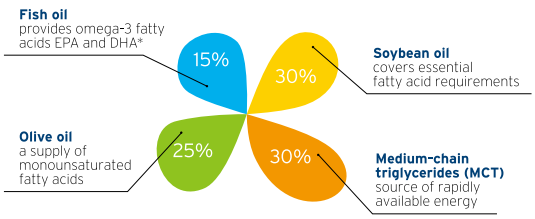

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Management of Psoriasis - Where Are We Now?

Dr King-man HO

MBBS (HK), MRCP (UK), FHKCP, FHKAM (Medicine), FRCP (Glasg), FRCP (Edin), Dip Derm (London), Dip G-U M (LAS), FFPHM

Specialist in Dermatology and Venereology
Council Member, Hong Kong College of Dermatologists

Dr King-man HO

This article has been selected by the Editorial Board of the Hong Kong Medical Diary for participants in the CME programme of the Medical Council of Hong Kong (MCHK) to complete the following self-assessment questions in order to be awarded 1 CME credit under the programme upon returning the completed answer sheet to the Federation Secretariat on or before 30 November 2022.

INTRODUCTION

An update review on psoriasis is definitely called for here since the last review on psoriasis in the Hong Kong Medical Diary was published more than a decade ago.

Definition

Psoriasis is a chronic inflammatory skin disease characterised clinically by erythematous papules or plaques with silvery scales resulting from increased epidermal proliferation mediated by the dysregulated Th17 (type 17 helper T cell) pathway.[1]

EPIDEMIOLOGY

The prevalence in Southern Chinese is estimated to be 0.3% to slightly less than 0.6%. Psoriasis has a bimodal age of disease onset. The first peak is around 20 and the second peak is around 60 with the former having a stronger genetic predisposition. Therefore, a substantial portion of those affected are pertaining to the working and socially active population. About 5-30% of people with psoriasis (PsO) also have psoriatic arthropathy (PsA) and are also more likely to have nail psoriasis.

CLINICAL DISEASE SEVERITY ASSESSMENT

PsO carries a significant impact to the health-related quality of life (HR-QOL) in people with the disease. As guidance to support clinical management decision-making, Finlay[2] proposed the "rule of ten" with ≥ 10% BSA (body surface area) involved, ≥ 10 point score in PASI (psoriasis area and severity index, a composite score taking into account the BSA, and redness, scaliness, and thickness of individual lesions)*, or > 10 point score in dermatology life quality index (DLQI, a validated HR-QOL instrument widely adopted in dermatology) to define "severe" PsO. In recent years, PASI-75 (75% reduction in psoriasis area and severity index) and subsequently PASI-90 (90% reduction in psoriasis area and severity index) have been adopted as the clinical endpoints in clinical trials for biologic treatments. PASI-75 is adopted as it is shown that only when improvement by such a "threshold" level does a person with severe PsO experience a meaningful and material effect in the improvement of HR-QOL. With the development of the more potent newer biologics, both PASI-75 and PASI-90 have been adopted as primary and/or secondary endpoints in recent clinical trials. Results of these trials will eventually support an informed decision-making process in real life patient care. In clinical trials on the newer biologics, the sPGA (static physician global assessment) scale is also adopted as a clinical outcome measure. Score of 0 or 1 in sPGA corresponds to a total clearance and near-total clearance of disease.[3]

* PASI is calculated by [area [Å] score of the region x extent indicator of the region x (sum of severity indicator of the region)] = 0.1 Å Head (E + S+ T) + 0.2 Å Upper limbs (E + S+ T) + 0.3 Å Trunk (E + S+ T) + 0.4 Å Lower limbs (E + S+ T) wherein Å refers to area of the suffix region according to a 7-point scale (0-6); E, S, T refers to the degree of erythema, scaling and thickness respectively according to a 5-point scale (0-4). The maximum score is 72.

MANAGEMENT OF PATIENTS WITH PSORIASIS

Guiding Principles of the Evidence-Based Medicine Approach

In order to arrive at a shared decision on management, the managing physician has to engage the index patient early on in the clinical decision-making process. The shared decision-making process involves the application of the physician's knowledge of the best available evidence, consideration of the local contextual factors and personal experience in clinical management coupled with due respect to the personal value and psychosocial status of the individual patient.

The Conventional Management Hierarchy

The treatment options for PsO include topical medicaments, conventional systemic drug treatments, ultraviolet light (UVL) therapies, and novel biologics treatments. Recommendations are mostly based on physician-based assessment of disease severity such as BSA involved, bodily areas of concern such as the face, hands, and nails. Most patients irrespective of severity will be recommended and started with

topical medicaments as the initial treatments. Only a few dermatologists, especially in the public sector, recommend UVL or conventional systemic drug treatment right in the initial phase of the clinical encounter. Only after trying and failing various combinations of topical medicaments would the attending doctor initiate to discuss the options of UVL or conventional systemic treatment with the index patient. More details of the conventional management hierarchy and treatment options have been summarised in the earlier review by Ho.[1] However, locally and from time to time, both the doctors and patients are too concerned about the adverse effects or inconvenience related to these options, to actually commit to these options.

Paradigm Shift in Management

The development and introduction of the new biologic treatments have revolutionised the conventional management approach. In gist, both parties are now more open-minded in choosing options other than topical treatments. In patients attending the public dermatology services, knowing that they are required to try specific conventional drug treatment before being eligible for biologic therapy, instead of lingering only on topical medicaments, they are more receptive to trying conventional systemic drug treatments, including methotrexate and cyclosporine A. Conventional options including the inconvenient twice to thrice weekly UVL therapy, and oral acitretin that is less effective yet with more symptomatic adverse effects are falling out of favour.

Guidance on Biologic Therapy in the Public Sector

In order to support the introduction of biologic therapies in the public services, the public dermatology service providers, Social Hygiene Service (SHS) of The Department of Health (DH) and dermatology services in Queen Mary Hospital (QMH) and Prince of Wales Hospital (PWH) of Hospital Authority (HA) have worked together to issue a standardised clinical management and referral protocol to facilitate the recruitment of eligible PsO patients to access biologic therapies in the public sector. Referencing the U.K. guidelines and operational protocols of a few of the major U.K. hospitals, senior dermatologists of SHS and HA revised and developed guidance that is applicable in the local context in 2019. The current guidance is abbreviated and summarised in Table 1. Adapted from "Decision aid for biologic therapy for psoriasis" developed by the British Association of Dermatologists (BAD), attributes of individual biologics relevant to support shared informed decision of choice for PsO are summarised in Table 2. It is worth noting that individual pharmaceutical company may refer to different sources/references that show slightly varied results to the BAD "Decision aid". As there are few head-to-head clinical trials to directly compare biologics developed in the same period of time, the clinical significance of the slight difference in the efficacy of individual biologics is yet to be verified.

Table 1: Medical eligibility criteria for biologic therapy for adult patient with severe PsO in public services[a]. (Adopted and modified from the original 2017 BAD guidelines, Ref: Smith CH, Jabbar-Lopez ZK, Yiu ZZ, et al. British Association of Dermatologists guidelines for biologic therapy for psoriasis 2017. Br J Dermatol 177;628 -36)

I.	**Severe psoriasis, where lesions have been present for at least six months from the time of initial diagnosis**	• Whole body severe chronic plaque psoriasis with a PASI ≥ 10 or BSA ≥ 10% (where PASI is not applicable, e.g. pustular psoriasis); and DLQI > 10. OR • Severe psoriasis of the face, hand or foot, (e.g., at least two of the three PASI symptom sub-scores for erythema, thickness and scaling are rated as severe or very severe, and the skin affected is 30% or more of the face, the palm of a hand or sole of a foot); and DLQI > 10.
	AND	
II.	**Contraindication OR Intolerance OR Failure of conventional systemic therapies**	• Conventional systemic therapies either are contraindicated or cannot be used due to the development of, or risk of developing, clinically important treatment toxicity. OR • Intolerant of conventional systemic therapies. OR • Unresponsive to methotrexate (at least 15 mg/week) and cyclosporin A (up to 5 mg/kg/day) or at the highest tolerable doses for a minimum of 12 weeks' treatment unless contraindicated.
	AND	
III.	**Absence of contraindication for biologic treatment, OR Factors rendering poor improvement of function/quality of life despite the use of biologics.[b]**	Significant active systemic infection (including untreated LTBI (latent TB infection) , chronic active hepatitis B or C, etc) • Pregnant or lactating woman • Allergy to latex • Concurrent malignancy • Non-compliance to pre-treatment evaluation, disease monitoring or poor adherence to treatment. • Poor functional status or limited lifespan due to comorbidities or unlikely meaningful improvement of function/quality of life despite the use of biologics.

NB.

[a] Abbreviated with modification of the original referral protocol issued in 2019 (with minor update in 2021)

[b] Individual PsO patient who has an allergy to individual biologic, heart failure, demyelinating disease, systemic lupus erythematosus, inflammatory bowel disease may be treated with appropriate biologic (refer to table 2 for contraindication/caution for individual biologics). Case-by-case evaluation is required for stable transplant recipients, cancer in remission, psychiatric illness, and other significant unstable systemic illnesses.

Table 2. Comparison and decision aid for biologics for PsO available in Hong Kong: year of registration, mechanism of action, dose schedule, efficacy, the discontinuation rate due to unwanted adverse effects, approval for use in PsA, and cautions or contraindications[a].

Biologic agent (Brand name)[b]	Mechanism of action[c]	FDA/ Hong Kong registration (Year)	Injection schedule	Rough proportion (%) of people becomes clear (or nearly clear [PASI-90]) after 3-4 month[d]	Rough proportion (%) of people stops their treatment because of unwanted effects in the first 3-4 month[d]	Formally approved for PsA[e]	Caution or contraindication[f]
TNF-α inhibitors							
Infliximab (Remicade®)	Monoclonal IgG1κ antibody against TNF-α	2006/2006	q8wk	53	5	yes	Moderate to severe heart failure; demyelinating disorders
Etanercept (Enbrel®)	Fusion protein of TNF receptor and human IgG1, against TNF-α	2004/2007	1 or 2 per wk	23	2	yes	Moderate to severe heart failure; demyelinating disorders
Adalimumab (Humira®)	Monoclonal IgG1 antibody against TNF-α	2008/2011	q2wk	41	2	yes	Moderate to severe heart failure; demyelinating disorders
IL-12/23 inhibitor							
Ustekinumab (Stelera®)	Monoclonal IgG1κ antibody against IL-12 and IL-23	2009/2011	wk 0, 4 & q12wk thereafter	46	1	yes	No particular
IL-17 inhibitors							
Secukinumab (Cosentyx®)	Monoclonal IgG1 antibody against IL-17A	2015/2015	wk 0, 1, 2, 3, 4, & monthly thereafter	60	2	yes	IBD; recurrent candida infection
Ixekizumab (Taltz®)	Monoclonal IgG4 antibody against IL-17A	2016/2017	wk 0, 2, 4, 6, 8, 10, 12 & q4wk thereafter	72	3	yes	IBD; recurrent candida infection
Brodalumab (Lumicef®)[g]	Monoclonal IgG2 antibody against IL-17RA	2017/2019	wk 0, 1, 2, & q2wk thereafter	73	2	not	IBD; recurrent candida infection; history of suicidal ideation or suicidal attempt or other depressive illness
IL-23 inhibitors							
Guselkumab (Tremfya®)	Monoclonal IgG1λ antibody against IL-23	2017/2018	0, 4 & q8wk thereafter	68	2	yes	No particular
Risankizumab (Skyrizi®)	Monoclonal IgG1 antibody against p19 unit of IL-23	2019/2020	0, 4 & q12wk thereafter	74	1	not	No particular

NB.

[a] Adapted and modified from the British Association of Dermatologists - Decision aid for biological therapy for psoriasis 2021.[4]

[b] Certolizumab (Cimizia®) a TNF-α inhibitor is registered in Hong Kong but not available in public services. Tildrakizumab (IIumya®) an IL-23 inhibitor though registered in the U.S. but is not registered in HK.

[c] Biologic suffix- ximab – chimeric monoclonal antibody; zumab – humanised monoclonal antibody; umab – human monoclonal antibody;

[d] The efficacy and unwanted effect data of individual biologics are referred to the BAD published "decision aid" [4], the individual pharmaceutical company may refer to different sources/references that show slightly varied results to the BAD "decision aid".

[e] The efficacies of biologics with approval for PsA vary from each other. Those biologics that have not yet been approved for PsA may also be effective for PsA. The Reasons for not been formally approved include: studies are ongoing and/or business decisions of the pharmaceutical.

[f] In general, biologics for PsO should be used with caution or contraindicated in any person with an active clinically important infection.

[g] Brodalumab (Lumicef®) has not yet been available in the public dermatology services. Based on safety signals identified in clinical trials, brodalumab carries a boxed warning regarding possible risks of suicidal ideation and behaviour. Such a risk is however not confirmable in post-marketing surveillance. Ref. Lebwohl M, Leonardi C, Armstrong A, et al. Three-year U.S. pharmacovigilance report of brodalumab. Dermatol Ther 2021;34(6):e15105.

INTRODUCTION OF BIOLOGIC SERVICE AS AN OPPORTUNITY TO IMPROVE THE STANDARD OF CARE OF PsO

As "failure" of conventional systemic treatment is a pre-requisite for accessing biologic therapy in the public services, the attending doctors are required to clearly state the reason for treatment failure in the referrals. Therefore, the attending doctors are guided to perform PASI (and as appropriate also DLQI) assessment on a regular basis, especially for those with severe PsO. In order to ensure adequate doses have been tried, the information related to the dosing and life cumulative dose of methotrexate, and the dosing and duration of cyclosporin A use are required in the referral. The requirement of relevant information to be stated in the referral protocol somewhat sets a framework for the standard of care and documentation in the clinical record of PsO patients attending public dermatology clinics.

Given the observation that patients with satisfactory control with methotrexate but reluctant to have a liver biopsy when their life cumulative doses have reached 1,000 to 2,500 mg (depending on the presence of other concurrent risk factors), liver elastography monitoring has been adopted wherein applicable to replace liver biopsy for monitoring of hepatic fibrosis related to long-term use of methotrexate.

In order to further enhance the standard of care for PsO, specific health education kits are developed by the nursing team in SHS. Information sheets on methotrexate, cyclosporine A and biologics are prepared to support informed decisions by relevant patients. Education kits on biologics have also been developed to support the designated nursing team in conducting pre- and on-treatment counselling and follow-up of concerned patients. Functions programming specific to PsO are added and built in the SHS 's Electronic Health Record System. These functions will enable and support clinical audit programmes on the clinical management of PsO.

ACCESS TO BIOLOGIC TREATMENT

Up to date, there are 10 biologic drugs registered with a specific indication for the treatment of PsO in Hong Kong. Of these, eight are listed in the HA formulary. PsO patients are now allowed access to biologic treatment in the public dermatology services provided they satisfy the medical eligibility criteria. Currently, the biologic agents for PsO are all listed as self-financing items with a safety net rendered by the Samaritan Fund under the HA system. For those who have started on biologic treatment in the private sector but choose to continue treatment in the public sector, they will be subjected to reassessment for their medical eligibility for biologic treatment upon presentation to the dermatology service of SHS. Should these patients have treatment initiated but without fulfilling the medical eligibility criteria adopted in the public services, dermatologists in SHS may not automatically continue biologic treatment for them. In order to facilitate the necessary assessment, the referring doctors are encouraged to clearly document the initial baseline medical assessment of disease severity, and treatment history in particularly conventional systemic therapies (including dosing and life cumulative dose of methotrexate, the dosing and duration of cyclosporin A; adverse effects occurred during these treatments) before initiation of biologic in the private sector. SHS has pledged to accord early appointments to those who have severe PsO. These patients will be attended by the doctor on-duty at the receiving clinic, assessed, and as appropriate arranged to the designated biologic clinic (DAC) located in Pamela Youde Nethersole Eastern Hospital (PYNEH) for biologic treatment. In other words, these patients will not be directly arranged to attend the biologic clinic in DAC. Safety net is provided by the Samaritan fund for those who satisfy the means test for public funding subsidisation for biologic treatment.

One may choose to have biologic treatment in the private sector. The monthly treatment cost (not including consultation fees and laboratory test fees) of these biologics ranges from less than HKD $3,000 to more than HKD $8,000 in the private sector. Most pharmaceutical companies have their own patient assistance scheme to reduce the treatment costs for those who receive treatment in the private sector. As the local guidance developed and adopted in the public sector is based and modified on that of the U.K., a country adopting an almost fully government-funded national health care system, cost effectiveness of individual biologic agents has been considered in the process of listing in the formulary of the National Health Service. Therefore, patients in the private sector may have the right to pay a higher premium but out of their own pocket to choose biologic therapy even though they are not satisfying the guidance adopted in the public sectors. Herein the share and informed decision-making process principles apply.

MANAGEMENT ISSUES BEYOND THE GUIDELINES

PsO and Regimes Other than the "Standard"

While the current guidelines focus on the indication for treatment and application of biologic treatment for stable plaque PsO, it does not cover other forms of PsO, including nail psoriasis, pustular psoriasis, and erythrodermic psoriasis. It also does not specifically recommend a particular biologic as the initial choice though the TNFα inhibitors have been out of favour for treatment of PsO.

There is no published guideline to address practice issues not recommended but not uncommonly requested by individual patients, like spacing out of dosing interval or using lower doses in patients well controlled with the standard regimen, and occasionally swapping of biologic agents for reasons other than waning efficacy of an individual agent.

Latent TB Infection

Screening of latent TB infection is recommended before initiation of biologic treatment. A local working group named "Latent TB Infection Working Group" convened by the prevailing Consultant Chest Physician of the TB and Chest Service of the DH and with participation by experts in various medical specialties from HA was formed in 2018. The sub-group on the management of latent TB infection (LTBI) in patients initiating biologics reviewed the literature and the latest database of the local biologic registry and undertook to develop a guidance for local use. Before 2018, when biologics working on the line of IL-17 and IL-23 were just being rolled out in the market, there was not too much data collected in the local registry, and so the Working Group could only deliberate based on data mostly related to TNF-α inhibitor treatment issued - the "Recommendations on Management of Latent Tuberculosis Infection in Patients Initiating Anti-tumour Necrosis Factor Biologics".[5] Though recent reports based on post-marketing observations show that the risk of TB reactivation of anti-IL-17 is minimal, the principle of defining LTBI and indication for treatment is still applicable to the use of IL-17 and IL-23 inhibitors. Because of the poor general skin condition in PsO patients previously on longer duration of topical treatment and possible Koebner phenomenon, interferon γ release assay (IGRA) may be the preferred screening test for LTBI as opposed to tuberculin skin test.

Other Management Issues Beyond the Skin

Recent epidemiological studies show that people with psoriasis are associated with higher odds of cardiovascular risk factors like obesity, diabetes mellitus, and hyperlipidaemia. Studies also demonstrated that control of PsO with TNF-α antagonists reduces CRP (C-reactive protein, a surrogate inflammatory marker), and other serum cardiovascular biomarkers. It is hence proposed that the anti-inflammatory properties of TNF-α inhibitor ameliorate the cardiovascular burden of psoriasis. There is no robust evidence yet to directly support that treatment of PsO in a person with normal body weight and blood sugar and lipids will significantly lower the incidence of cardiovascular events. However, for holistic management, the inclusion of history taking relevant to smoking and drinking habits, personal and family history of diabetes, hypertension, hyperlipidaemia and cardiovascular diseases in the routine assessment protocol is a good clinical practice. Moreover, to more aggressively treat these comorbidities to target in people with severe PsO is sensible.

PsA and depressive illness appear to be underdiagnosed in people with PsO. In order to facilitate earlier diagnosis of PsA, the US National Psoriasis Foundation recommends that people with PsO should complete the Psoriasis Epidemiology Screening Tool (PEST), a validated screening tool for psoriatic arthritis every six months. A local study showed that the point prevalence of "any kind of depressive disorder" in PsO patients attending public dermatology clinics was 26.4% and most of these patients were otherwise not recognised.[6] It has also been suggested that training in the diagnosis and referral of psoriatic patients with depression in our local setting could be enhanced.

SUMMARY

Biologics intervening the Th17 and Th23 pathways are relatively safe and effective for the treatment of severe stable plaque psoriasis. Biologic treatment service for PsO has already been introduced in the public dermatology services. The service is supported by local guidance. The initiative creates an opportunity to improve the standard of care of PsO. Initiation of biologic therapy involves a shared and informed decision-making process engaging both the managing physician and the patient. There are other management issues that need to be addressed in the management of an individual patient with PsO.

Abbreviation used:

BSA: body surface area
CRP: C-reactive protein
DH: The Department of Health
DLQI: dermatology life quality index
HA: Hospital authority
HLA: human leucocyte antigen
HR-QOL: health related quality of life
IGRA: interferon γ release assay
IL: interleukin
LTBI: latent TB infection
PASI: psoriasis area and severity index
PASI-75: 75% reduction in psoriasis area and severity index
PASI-90: 90% reduction in psoriasis area and severity index
PsA: psoriatic arthropathy
PsO: psoriasis
PUVA: ultraviolet A with psoralen therapy
PWH: Prince of Wales hospital
PYNEH: Pamela Youde Nethersole Eastern Hospital
QMH: Queen Mary Hospital
SHS: Social Hygiene Service
sPGA: static physician global assessment
Th17: type 17 helper T cell
TNF: tumour necrosis factor
UVL: ultraviolet light

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Therapeutic indications: Rheumatoid Arthritis: OLUMIANT is indicated for the treatment of moderate to severe active rheumatoid arthritis in adult patients who have responded inadequately to, or who are intolerant to one or more disease-modifying anti-rheumatic drugs. OLUMIANT may be used as monotherapy or in combination with methotrexate. Atopic Dermatitis: OLUMIANT is indicated for the treatment of moderate to severe atopic dermatitis in adult patients who are candidates for systemic therapy. **Recommended dose:** The recommended dose of OLUMIANT is 4 mg once daily. A dose of 2 mg once daily is appropriate for patients such as those aged ≥ 75 years and may be appropriate for patients with a history of chronic or recurrent infections. A dose of 2 mg once daily may also be considered for patients who have achieved sustained control of disease activity with 4 mg once daily and are eligible for dose tapering. **Contraindications:** Known hypersensitivity to the baricitinib or any of the excipients. Pregnancy. **Special precaution:** Caution in patients with chronic, active or recurrent infections, monitor if infection develops; interrupt if not responding to treatment. Screen for tuberculosis, do not give if active; treat first if latent. Avoid or interrupt OLUMIANT with abnormal blood cell levels, lipids and liver enzymes. Use with live vaccines not recommended. The risk of malignancies including lymphoma is increased in patients with rheumatoid arthritis, OLUMIANT clinical data are insufficient to assess potential incidence of malignancies. Caution in patients with risk factors for deep venous thrombosis or pulmonary embolism, consider VTE prophylaxis. Use with bDMARD or other JAK is not recommended. Caution in patients with diverticular disease and especially in patients chronically treated with concomitant medications associated with an increased risk of diverticulitis. **Adverse reaction:** Very common: upper respiratory tract infections, hypercholesterolaemia. Common: herpes zoster, herpes simplex, gastroenteritis, urinary tract infections, pneumonia, thrombocytosis, headache, nausea, abdominal pain, elevation of alanine Transaminase and creatine phosphokinase, rash and acne. **Drug interaction:** Combination with biologic DMARDs or other JAK inhibitors has not been studied. Use of baricitinib with potent immunosuppressive medicinal products such as azathioprine, tacrolimus, or ciclosporin was limited in clinical studies of baricitinib, and a risk of additive immunosuppression cannot be excluded. Please refer to full prescribing information for further details. EUSPC20NOV2020

*1 day after initiating Olumiant; †Daily data were taken from patient diaries. The percent change from baseline in Itch NRS at 2 days was another secondary endpoint that was prespecified but not adjusted for multiplicity.

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PP-BA-HK-0185 07/21

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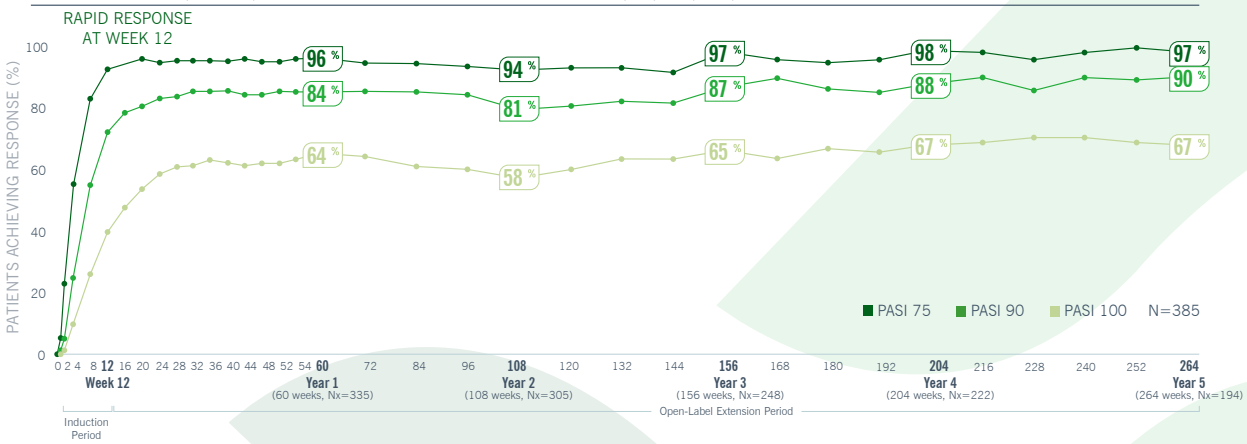
Sustained + Rapid

Sustained skin clearance over 5 years of treatment[1]

Nearly 7 out of 10 patients achieved or maintained PASI 100 through week 264

UNCOVER-3: PASI 75, PASI 90, AND PASI 100 OBSERVED RESULTS AT WEEKS 12, 60, 108, 156, 204 AND 264[1,2]

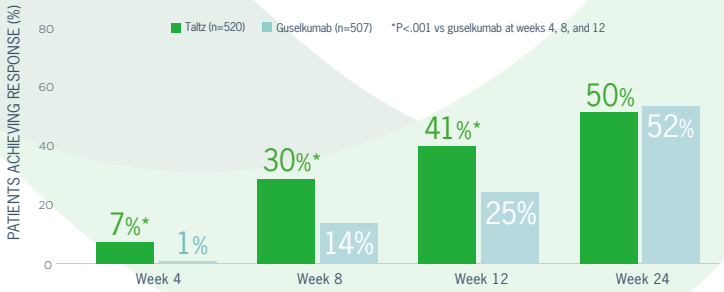


Complete, superior and rapid clearance[3,4]

Taltz was superior to guselkumab in providing complete skin clearance (PASI 100) at weeks 4, 8, and 12

NRI = Non-responder imputation. Nx = observed population. PASI = Psoriasis Area Severity Index.

IXORA-R: PERCENTAGE OF PATIENTS ACHIEVING PASI 100 AT WEEKS 4, 8, 12, AND 24, NRI[3,4]



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Taltz Abbreviated Prescribing Information

Indications: Plaque psoriasis - Taltz is indicated for the treatment of moderate to severe plaque psoriasis in adults who are candidates for systemic therapy. **Psoriatic arthritis** - Taltz, alone or in combination with methotrexate, is indicated for the treatment of active psoriatic arthritis in adult patients who have responded inadequately to, or who are intolerant to one or more disease-modifying anti-rheumatic drug (DMARD) therapies. **Dosage: Plaque psoriasis** - Recommended dose is 160 mg by subcutaneous injection (two 80 mg injections) at Week 0, followed by 80 mg (one injection) at Weeks 2, 4, 6, 8, 10, and 12, then maintenance dosing of 80 mg (one injection) every 4 weeks. **Psoriatic arthritis** - Recommended dose is 160 mg by subcutaneous injection (two 80 mg injections) at Week 0, followed by 80 mg (one injection) every 4 weeks thereafter. For psoriatic arthritis patients with concomitant moderate to severe plaque psoriasis, the recommended dosing regimen is the same as for plaque psoriasis. No data are available in children and adolescent ≤ 18 years and limited information in subjects ≥ 75 years. **Contraindications:** Serious hypersensitivity. Clinically important active infections. **Special Precautions:** Infections, hypersensitivity, inflammatory bowel disease, immunization. Pregnancy, breast-feeding, fertility. **Adverse Reactions:** Injection site reactions, upper respiratory tract infections, tinea infection, oropharyngeal pain, nausea.

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PP-IX-HK-0169 06/2021

MCHK CME Programme Self-assessment Questions

Please read the article entitled "Management of Psoriasis - Where Are We Now?" by Dr King-man HO and complete the following self-assessment questions. Participants in the MCHK CME Programme will be awarded CME credit under the Programme for returning completed answer sheets via fax (2865 0345) or by mail to the Federation Secretariat on or before 30 November 2022. Answers to questions will be provided in the next issue of The Hong Kong Medical Diary.

Questions 1-10: Please answer T (true) or F (false)

1. Two percent of the local population have psoriasis.
2. PASI-75 is commonly used to define severe psoriasis.
3. In the public dermatology services, people with psoriasis who failed systemic treatment with methotrexate and cyclosporine A will be eligible for consideration for biologic therapy.
4. Biologic therapy is the first line treatment for erythrodermic and pustular psoriasis.
5. Biologic therapy for psoriasis is contraindicated in chronic hepatitis B carriers.
6. Screening of latent TB infection is recommended before initiation of biologic treatment.
7. The newer biologics may achieve almost clearance of psoriasis in around 70% of cases.
8. Both anti-IL 17 and 23 biologics are relatively safe and effective treatment options for stable plaque psoriasis failing conventional systemic therapies.
9. People with psoriasis have higher odds of metabolic syndromes.
10. Biologic therapy has been proven to reverse the comorbidities associated with psoriasis.

ANSWER SHEET FOR NOVEMBER 2022

Please return the completed answer sheet to the Federation Secretariat on or before 30 November 2022 for documentation. 1 CME point will be awarded for answering the MCHK CME programme (for non-specialists) self-assessment questions.

Management of Psoriasis - Where Are We Now?

Dr King-man HO

MBBS (HK), MRCP (UK), FHKCP, FHKAM (Medicine), FRCP (Glasg), FRCP (Edin), Dip Derm (London), Dip G-U M (LAS), FFPHM

Specialist in Dermatology and Venereology
Council Member, Hong Kong College of Dermatologists

1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 ☐

Name (block letters):_____ HKMA No.: _____ CDSHK No.: _____

HKID No.: __ __ - __ __ __ __ X X (X) HKDU No.: _____ HKAM No.: _____

Contact Tel No.:_____ MCHK No. / DCHK No.: _____(must fill in)

Answers to October 2022 Issue

Axial Spondyloarthritis: Diagnosis, Assessment, and Management

1. T 2. F 3. F 4. F 5. T 6. T 7. T 8. F 9. F 10. T

Skin Cancer Detection and Screening

Dr Gavin J CHAN

MB BS (HK), MRCP (UK), FHKCP, FHKAM (Medicine)

Specialist in Dermatology & Venereology

Dr Gavin J CHAN

INTRODUCTION

Skin cancers have been rising in incidence worldwide for decades and can be divided into two main groups: malignant melanoma and non-melanoma skin cancer (NMSC). Malignant melanoma (MM) is the most aggressive form of skin cancer, accounting for 90% of all skin cancer mortality,[1] and representing approximately 22 per cent of skin cancer diagnoses worldwide in 2020,[2] with age-standardised incidence rates (ASIR) being highest in Australia, New Zealand, followed by Denmark, Norway, the U.S. whites and Sweden (29.3-50.3 tumours per 100,000).[3] NMSCs are the more common skin cancers, having accounted for approximately 78 per cent of skin cancer diagnoses globally in 2020,[2] with basal cell carcinoma (BCC) and squamous cell carcinoma (SCC) being the most prevalent forms.

Skin cancers are much less common in Hong Kong, with NMSC and MM accounting for 3.1% and 0.25% of new cancer diagnoses respectively in Hong Kong in 2019.[4] In a recent nationwide study of melanoma burden in China among 31 provinces and autonomous regions including Hong Kong, there was a substantial upward trend in age-standardised incidence and prevalence rate for melanoma during 1990 to 2017 with an annual percentage change of 0.6% between 1990-2005 and 6.1% during 2005-2017.[5] Moreover, a retrospective study of skin cancers among three major Asian ethnic groups (Chinese, Indian and Malay) in Singapore between 1968 to 2016 found that Chinese ethnicity had the relatively highest ASIRs for BCC and SCC, and the highest increase in ASIRs for BCC from 2.7 tumours per 100,000 person-years in 1968 to 6.9 tumours per 100,000 person-years in 2016, whilst the ASIRs for melanoma remained low and stable at around 0.5 tumours per 100,000 person-years.[6]

Early detection of MM is particularly important as the five year-survival rates decrease significantly from 99.4% for those first diagnosed with stage I-II disease, to 68.0% and 29.8% respectively for stage III and stage IV disease.[7] Although mortality rates for NMSCs are lower, cutaneous SCC is associated with a 25% higher risk of all-cause mortality compared to the general population,[8] and NMSCs can still be destructive and disfiguring when treatment is inadequate or delayed. Timely diagnosis remains important to guide appropriate management in order to reduce morbidity and improve survival.

RISK FACTORS

The majority of skin cancers are related to excessive exposure to ultraviolet radiation, particularly from the sun. Increased melanoma risk has been associated with total and recreational sun exposure during childhood, while an increased risk of NMSC has been shown in persons with increased exposure to ambient UV radiation. Other risk factors include fair skin types (ivory or pale skin, light eye colour, red or blond hair, freckles, sunburns easily), history of sunburns, previous use of indoor tanning beds, a personal family history of skin cancer, and immunocompromised state such as patients with HIV and post-organ transplant recipients.[9]

CLINICAL DETECTION

Clinical recognition of skin cancer remains the foundation of the identification and diagnosis of malignant skin lesions. Through patient history, new and/or growing solitary lesions that may bleed, crust, ulcerate or change in size, shape or colour may be presented to the clinician for evaluation.[10]

Malignant Melanoma

The main subtypes of melanoma are: superficial spreading melanoma, lentigo maligna melanoma, nodular melanoma, and acral lentiginous melanoma.

Superficial spreading melanoma (SSM) (Fig. 1) tends to present as an **A**symmetrical pigmented lesion with irregular **B**orders, **C**olour variation, and typically of a larger **D**iameter (> 6mm). This simple mnemonic has been expanded to include "**E**" for evolution or enlargement to make up the **ABCDE criteria**, to serve as a clinical prediction rule to alert healthcare professionals to the atypical features that may signal early cutaneous melanoma.[10] Its sensitivity, specificity and diagnostic accuracy have been verified in multiple studies. Similarly a *revised* **Glasgow seven-point checklist (7PCL)** has been recommended by the U.K. National Institute for Health and Care Excellence for routine use in the U.K. general practice to identify suspicious lesions which require urgent referral. This criterion involves identifying three major signs (change in size, shape and/or colour) and four minor signs (inflammation, crusting/bleeding, sensory change, diameter >= 7mm) to enhance the early recognition of melanoma.[11]

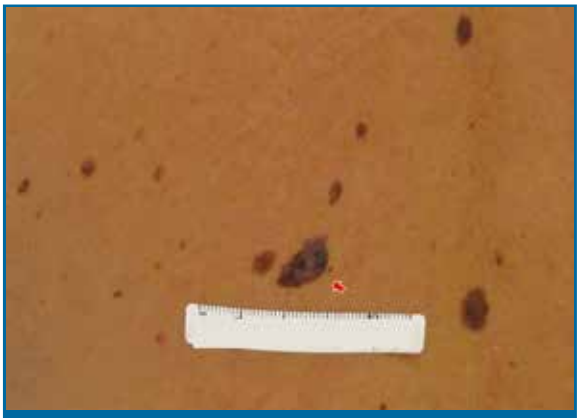

Fig. 1: Superficial spreading melanoma stage Ia at the back (Clinical photo from personal collection)

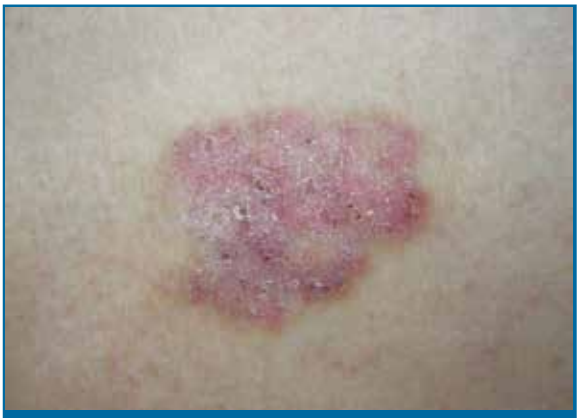

Fig. 2: Superficial basal cell carcinoma at the back (Clinical photo from personal collection)

Lentigo maligna melanoma (LMM) typically occurs on the chronic sun-exposed areas of the head and neck of older patients and usually starts off as an asymmetrical pigmented macule as *lentigo maligna* (in-situ disease) that may grow slowly over months to years before invasion occurs.

Nodular melanoma (NM) and desmoplastic melanoma (DM) do not conform to the ABCD rule and their clinical diagnosis is more elusive. NM is a fast-growing aggressive form of melanoma that typically presents as a symmetrical, dome-shaped, often hypomelanotic firm lesion on the skin. Similarly, DM usually presents as a firm, amelanotic nodular, plaque or scar-like dermal lesion. The "**EFG" rule**, consisting of **E**levation, **F**irmness on palpation, continuous **G**rowth over one month, has been suggested to raise suspicion of such clinically innocent looking lesions.[12]

Acral lentiginous melanoma (ALM) is the most common form of melanoma in Asian populations, representing approximately 50% of melanoma cases in Singapore, Japan, China, Taiwan and Korea.[13] ALM are melanomas that occur on the hands and feet, wrists and heels and typically begin as a pigmented macule that progresses into a patch with variable light to dark brown pigment, showing characteristics identified by the ABCDE criteria, but may also be hypo- or amelanotic. In later stages, the lesion may become nodular and darkly pigmented. ALM may also arise in the nail region and can present as irregularly pigmented longitudinal band(s) on the nail plate where it is known as *subungual melanoma*. In advanced stages, the nail plate may be destroyed entirely. A tell-tale sign of subungual melanoma is **Hutchinson's sign**, where the irregular band of nail pigmentation extends onto the neighbouring nailfold.

Basal Cell Carcinoma

BCCs commonly occur on sun-exposed areas of the head and neck, and usually present as slowly-growing asymptomatic papules, nodules or plaques, or as a non-healing ulcer that may bleed easily. The four main types of BCC are nodular, superficial, infiltrative (morphoeic) and pigmented BCC.

Nodular BCC is the most common subtype in Caucasian populations, often appearing as an ulcerated nodule with a characteristic pearly rolled border and telangiectasia. *Superficial BCC (Fig. 2)* appears as a non-specific pink-red and scaly, solitary patch that resembles a patch of dermatitis but is resistant to treatment. *Infiltrative BCC* appears as an irregular scar-like lesion with a surface that may be slightly shiny, or have telangiectasia or erosions. *Pigmented BCC (Fig. 3)* is the most common clinical type among Asians including Chinese patients,[14,15] and is characterised by its prominent bluish-grey-black pigmentation. It is an important differential diagnosis when evaluating pigmented lesions in Asian populations.

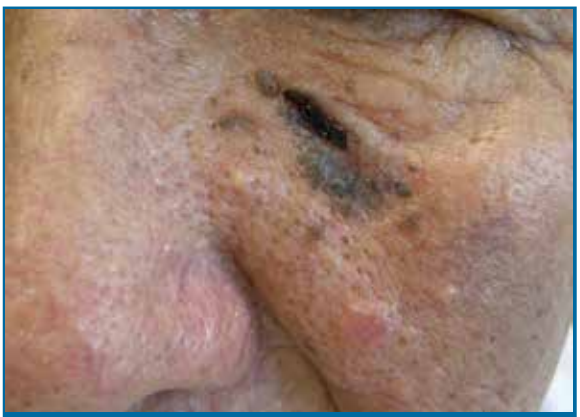

Fig. 3. Pigmented basal cell carcinoma on the face (Clinical photo from personal collection)

Squamous Cell Carcinoma

SCCs (Fig. 4) usually present as a thickened red, scaly or crusted bump on chronically sun-exposed areas such as the head and neck, arms and legs that may grow over weeks to months. SCCs are often asymptomatic but may ulcerate or be tender or painful. SCCs may also arise from existing lesions such as actinic keratosis and Bowen's disease.[16] *Actinic keratoses* (AK) are considered precancerous, or early in-situ SCCs as part of a disease continuum that can progress into invasive SCC.[17] AKs usually present as rough scaly macules, patches or keratotic papules in the background of chronic sun

damage and sometimes may be more easily felt as having a sandpaper-like texture of palpation than be seen.[18] *Bowen's disease* is an in-situ SCC that classically presents as an asymptomatic, solitary erythematous dry scaly patch or plaque that has been slowly growing on a sun-exposed area, that may mimic the appearance of eczema or psoriasis.

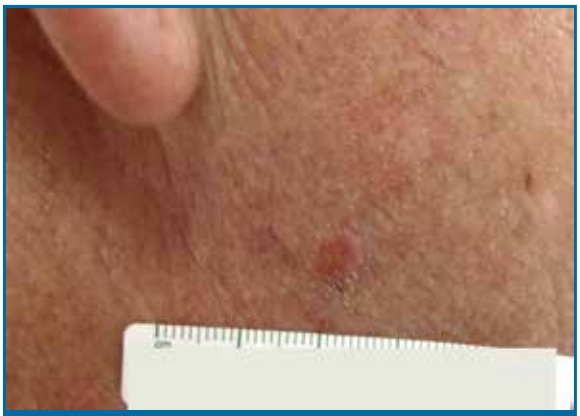

Fig. 4: Squamous cell carcinoma on the face (Clinical photo from personal collection)

DERMATOSCOPY

Dermatoscopy (also known as dermoscopy or epiluminescence microscopy) is the inspection of skin lesions using a magnifying device (typically x10) coupled with a light source and a method which cancels out the skin surface reflections to allow visualisation of subsurface skin structures down to the level of the superficial dermis which are otherwise not visible to the unaided eye.[19] Traditional dermatoscopes make use of a transparent plate that is placed over a liquid oil/gel medium over the lesion of concern; modern handheld dermatoscopes instead use polarised light to eliminate skin reflection, thus removing the need for an immersion liquid, facilitating a simple and convenient way to supplement visual examination of skin lesions. Dermatoscopy has been shown to improve the diagnostic sensitivity for melanomas (90%) compared to that achieved with the naked eye (74%),[20] and its specificity has been reported at 95%, compared with visual inspection alone (75%).[21] The usefulness of dermatoscopy has also been extended to improving the diagnostic accuracy for BCC and SCC in both non-pigmented and pigmented variants and has a reported sensitivity of 98.6% for basal cell carcinoma and 86.5% for squamous cell carcinoma.[22] Fig. 5 shows the dermatoscopic features of the pigmented BCC in Fig. 3, and also helps in delineating the clinical margins of the lesion.

As with all diagnostic tools, dermatoscopy has its limitations, especially in identifying small and flat melanomas that lack melanoma clues at the beginning, but may show changes over time with *sequential digital dermatoscopic imaging* (SDDI).[23] In a study of patients with a high risk of melanoma, about 20% to 50% of melanomas could only be detected with the help of digital dermatoscopic follow-up.[24] Careful patient and low-risk lesion selection for SDDI remains paramount, and clinically suspicious or nodular lesions should instead be biopsied.

SKIN CANCER SCREENING

Skin cancer screening aims to detect cancer at an early stage of the disease where timely initiation of treatment can improve survival. There is currently no consensus on skin cancer screening recommendations worldwide, especially in asymptomatic individuals with no history of skin cancer.[25] Due to the paucity of high-quality evidence to support population-based mass screening even among countries with a high incidence of skin cancer, skin cancer screening remains mostly opportunistic during a clinical encounter with the physician, or targeted at individuals with risk factors for skin cancer.[26]

Skin Self-Examination

Periodic skin self-examinations (SSEs) are advocated as a method to help individuals identify suspicious skin lesions that show warning signs of skin cancer, or changes in existing lesions, so that they may be presented to the physician for further examination. This strategy is based on findings that most melanomas are first detected by oneself or their partner, and that regular practice of SSE has the potential to decrease melanoma mortality - individuals who did not routinely practice SSE were more likely to be found with thicker, more advanced melanomas than those who did.[27,28] The efficacy of SSEs is still debated, and in 2018, the U.S. Preventive Services Task Force concluded that current evidence is insufficient to assess the benefits and harms of SSE in asymptomatic individuals.[9] Even so, routine SSE remains a free, non-invasive method that reinforces individuals' awareness of their skin lesions, and is recommended for those at elevated risk of skin cancer.

Full Body Skin Examinations

Full body skin-examination (FBSE; also known as total body skin examination) is the systematic examination of a patient's entire skin surface aiming to identify skin cancers and at-risk lesions that the patient may not be able to see (for example, on the mid-back that is hard for oneself to observe). It is a relatively quick, inexpensive and non-invasive process conducted by an experienced physician or dermatologist,[29] and is often complemented by dermatoscopy. Various studies have demonstrated greater incidental detection of melanomas and NMSCs, and detected melanoma after recent FBSE have demonstrated thinner Breslow depths and consequently better prognosis.[30,31,32] Using FBSE to screen for incidental malignant lesions in patients referred to a secondary care dermatology clinic has demonstrated a detection rate of 5.1% incidental malignant lesions, including BCCs, SCCs and melanomas.[31]

The additional benefit of FBSE for patients having many melanocytic nevi is that assessment of individual pigmented lesions is influenced by the morphology of other pigmented lesions - normal melanocytic nevi tend to resemble one another morphologically (so called "*signature nevi*"), so identifying a pigmented skin lesion looking significantly different from other nevi should

raise the suspicion of a malignant lesion (**ugly duckling sign**).[10]

Despite its demonstrable usefulness, the use of FBSE for screening of the general population remains controversial. The United States Preventive Services Task Force (USPSTF) has stated there is insufficient evidence to recommend skin self-examination and total body skin examination to the general adult population,[9] and in many countries FBSE remains a selective screening method for individuals of higher risk for melanoma or skin cancer.[25]

Total body photography

Total body photography (TBP; also known as mole mapping) uses clinical photography of the patients' skin surface to provide a photographic record to help identify changes in patients with numerous melanocytic nevi. Traditionally, a series of 20-50 digital images of the patient in different poses are taken to make up a "body map". The use of TBP has been shown to reduce the number of biopsies taken, and increase the accuracy of diagnosis in people at high risk of melanoma.[33,34] A systematic literature review also found that TBP improved the early detection of melanoma in high-risk populations, with a trend towards melanoma diagnosis at lower Breslow's thickness and a higher proportion of in-situ melanomas in those undergoing TBP compared to those without TBP.[35] Moreover, baseline TBP has been shown to improve patient SSE in those at high risk for melanoma.

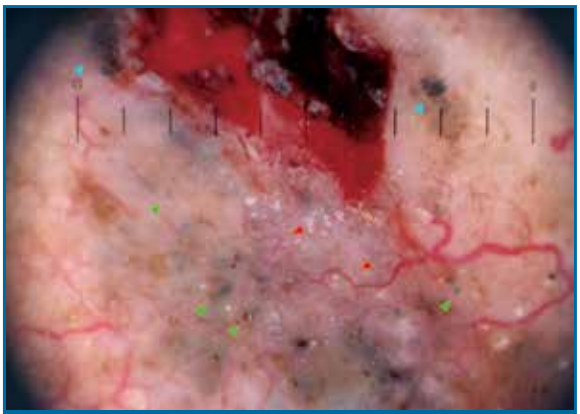

Fig. 5: Dermatoscopy of the pigmented BCC shown in Figure 3, showing ulceration, blue-grey ovoid nests (blue arrows), multiple blue-grey globules (green arrows) and arborising telangiectasia (red arrows) (Dermatoscopic image from personal collection)

CONCLUSION AND FUTURE DIRECTIONS

This article briefly summarises some of the clinical and non-invasive strategies used for early detection and screening for skin cancers. Awareness of the risk factors for skin cancers and clinical clues that suggest a suspicious skin lesion allows for early referral and biopsy for histopathologic diagnosis. Despite the lack of consensus on skin cancer screening recommendations, high-risk individuals and patients with previous history of skin cancer can benefit from regular self-skin examinations and periodic full body skin examinations supported by dermatoscopy.

Many innovative non-invasive skin cancer detection technologies are being studied as complementary modalities for the assessment of skin cancers, including reflectance confocal microscopy (RCM), optical coherence tomography (OCT), spectroscopy-based imaging, AI-enabled computer-aided diagnostics using deep learning algorithms, digital 3D total body photography, among others. Surgical biopsy for histopathologic diagnosis remains the gold standard for diagnosis of skin cancer.

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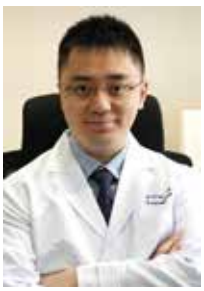
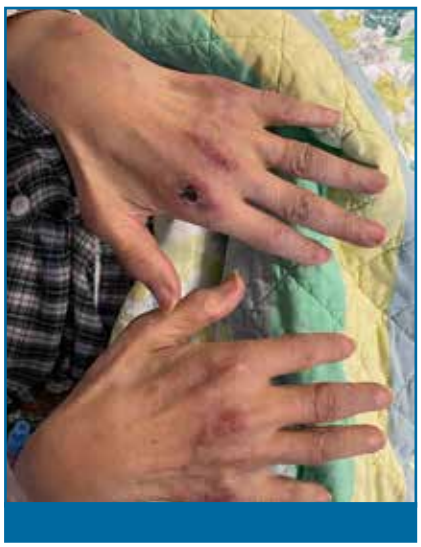
Dermatology Quiz

Dr Victor TL WONG

MBChB (HK), MRCP (UK), FHKCP, FHKAM (Medicine)



Dr Victor TL WONG



A 65-year-old gentleman who enjoyed good past health suffered from skin rash for one month involving the dorsal surface of both hands as well as the face. He did not complain of any muscle weakness. He complained of progressive shortness of breath for three weeks. Blood tests, including ANA, CPK, LDH levels were all normal. The clinical photo is shown in Fig 1.

Questions

1. What is the most likely diagnosis?
2. What will you do to confirm the diagnosis?
3. What complications will you try to look for?
4. What are the possible treatment options?
5. What is the estimated six-month mortality rate after diagnosis of the above medical condition?

(See P.41 for answers)

由外而內，樂得純真。

Elidel®唐樂得®無類固醇抗溫疹乳霜

- 有效舒緩濕疹徵狀[1]，減低復發風險[1]
- 適合孩子敏感肌膚間歇性長期使用[1]
- 修復外在天然屏障，補充肌膚濕度[2,3]

消炎·補濕·止痕[2,4]　　2歲或以上適用[1,2]

ELIDEL

*請就診對其他外用處方治療沒有充分反應，或不適用的輕度至中度異位性皮膚炎患者。

參考資料：1. Elidel® (pimecrolimus) Prescribing Information. Version April 2020. 2. Luger T, *et al.* Recommendations for pimecrolimus 1% cream in the treatment of mild-to-moderate atopic dermatitis: from medical needs to a new treatment algorithm. *Eur J Dermatol.* 2013;23(6):758-766. 3. Jansen JM, *et al.* Different effects of pimecrolimus and betamethasone on the skin barrier in patients with atopic dermatitis. *J Allergy Clin Immunol.* 2009;123(5):1124-32. 4. Ashoff R, *et al.* Skin physiological parameters confirm the therapeutic efficacy of pimecrolimus cream 1% in patients with mild-to-moderate atopic dermatitis. *Exp Dermatol.* 2005;19(1):24-9.

ELIDEL SUMMARY OF PRODUCT INFORMATION: 1. TRADE NAME: ELIDEL CREAM 1% **2. PRESENTATION:** Each gram of Elidel cream 1% contains 10 mg of pimecrolimus in a whitish cream base of benzyl alcohol, cetyl alcohol, citric acid, mono- and di-glycerides, oleyl alcohol, propylene glycol, sodium cetostearyl sulfate, sodium hydroxide, stearyl alcohol, medium chain triglycerides and water. **3. INDICATIONS:** Second line therapy for the short-term and non-continuous chronic treatment of mild to moderate atopic dermatitis (eczema) in nonimmunocompromised adults and children 2 years of age and older, intermittent long-term treatment of emerging and resolving lesions in atopic dermatitis where the use of a topical corticosteroid is not yet warranted, no longer needed, or is inadvisable. **4. DOSAGE:** Apply a thin layer of Elidel 1% to the affected skin twice daily and rub in gently and completely. Elidel 1% cream may be used on all skin areas, including the head and face, neck, and intertriginous areas. **5. CONTRAINDICATIONS:** History of hypersensitivity to pimecrolimus or any of the components of the cream. **6. WARNINGS & PRECAUTIONS:** Elidel should only be applied to areas of eczema. Do not apply to areas affected by acute cutaneous viral infections, cutaneous pre-malignant changes caused by excessive sun exposure or phototherapy, or to areas where skin cancers have been removed. Elidel 1% cream is not recommended in patients with Netherton's syndrome or severely inflamed or damaged skin, and in immunocompromised patients. Use an appropriate antimicrobial agent in the presence of dermatological bacterial or fungal infection. Discontinue Elidel 1% cream until the infection has been adequately controlled. Treatment with Elidel may be associated with an increased risk of eczema herpeticum, evaluate the risks and benefits associated with the use of Elidel cream. Avoid exposure to the sun of skin areas treated with Elidel cream. Avoid contact with eyes and mucous membranes. Elidel should not be used in patients receiving phototherapy, in children and adults with weakened immune systems. Application to vaccination sites when local reactions of Elidel persist is not recommended. **7. INTERACTIONS:** Interactions of Elidel cream with systemically administered drugs are unlikely to occur based on its minimal extent of absorption. **8. PREGNANCY AND LACTATION:** There are no adequate data from the use of Elidel cream in pregnant women. Elidel cream should not be used in pregnant women. Caution should be exercised when Elidel 1% cream is to be used in a breastfeeding woman because many drugs are excreted in human milk, and potential serious adverse effects on nursing infants. Elidel 1% cream should not be applied onto the breast for breastfeeding women. **9. SIDE EFFECTS:** Application site burning, Application site reactions (irritation, pruritus, and erythema), skin infections (folliculitis). Reference: HK PI (Apr 2020) Date of preparation: Aug 2021 Identifier number: ELI00821

FULL PRESCRIBING INFORMATION IS AVAILABLE UPON REQUEST.

Mylan Pharmaceutical Hong Kong Ltd., a Viatris company
Suites 2401-07 & 12, 24/F., One Island East, 18 Westlands Road, Quarry Bay, Hong Kong T 2292 7100 F 2873 0008 W www.viatris.com

VIATRIS 輝致

Pemphigus Vulgaris: Update on Diagnosis and Treatment

Dr Mandy WM CHAN

LMCHK, MBBS (Lond), MRCP (UK), MRCP (Lond), MRCP (Edin), MRCP RCPS (Glasg), FAMS (Dermatology), FHKCP, FHKAM (Medicine)

Specialist in Dermatology and Venereology

Dr Mandy WM CHAN

INTRODUCTION

Pemphigus is a rare but serious group of autoimmune blistering diseases which affects the skin and mucous membrane. Pemphigus vulgaris (PV) is the most common type of pemphigus (Table 1). Immunoglobulin G (IgG) antibodies are produced by targeting desmosomal proteins in the epidermis, causing intraepithelial and mucocutaneous blistering. The average mortality of PV was 75% before the introduction of corticosteroids in the early 1950s.[1] The goal of treatment is to achieve clinical remission with the least amount of treatment-related side effects.

Table 1: Types of pemphigus (Developed by the author)

Disorder	Target antigen	Clinical features
Pemphigus vulgaris	Desmoglein 3 +/- desmoglein 1	Mucosal erosions +/- cutaneous flaccid blisters and erosions
Pemphigus foliaceus	Desmoglein 1	No mucosal involvement, erosions with scales
Pemphigus herpetiformis	Desmoglein 1, desmoglein 3, desmocollin 1 and 3	Herpetiform distribution of vesicles often in annular pattern
IgA pemphigus	Desmocollin 1	Serpiginous vesicles or pustules
Paraneoplastic pemphigus	Envoplakin, desmoglein 3, periplakin, Antigen 170 and 230 kilodalton, desmoplakin I/II	Mucosal erosions, severe stomatitis, skin lesions can range from tense blisters, to scattered or extensive erosions
Drug-induced pemphigus	Desmoglein 1, desmoglein 3	Can present as pemphigus vulgaris like or pemphigus foliaceus like cutaneous features

PEMPHIGUS

PV typically affects patients with a mean age of 50 to 60 years old, affecting both sexes equally. A genetic predisposition with human leukocyte antigen (HLA) class II alleles has been found to be associated with patients of Jewish descent, European and Asian descent.[2]

PATHOPHYSIOLOGY

PV is caused by autoantibodies against desmogleins (DSG), which is a keratinocyte protein in the skin and mucosal surfaces. A diagnosis of PV is made based on clinical-histopathological correlation. Patients typically present with painful crusts, erosions, and superficial flaccid vesicles and blisters over the skin and mucosal surfaces (Fig. 1 and 2). Nikolsky sign, in which a blister formation develops with pressure or trauma, can be seen in patients with PV. Mucosal PV can affect any mucosal surface including nasal, larynx, pharynx, conjunctiva, oesophagus, penis, vagina, and anus; therefore patients with suspected PV need a thorough examination of the skin and mucosa. A clear drug history should also be elicited from the patient as medications like penicillamine and captopril can trigger PV. Other agents such as non-steroidal anti-inflammatory medications, penicillin, cephalosporin have also been reported to cause drug-induced PV.[3]

Fig. 1: Crust and erosions on the scalp in a patient with pemphigus vulgaris (Clinical photo from personal collection)

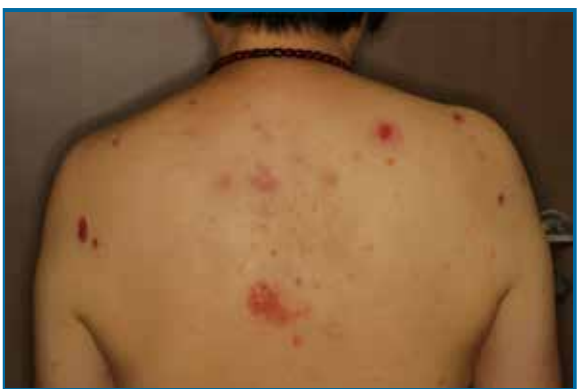


Fig. 2: Superficial erosions, vesicles, crust and postinflammatory hyperpigmentation on the back in a patient with pemphigus vulgaris(Clinical photo from personal collection)

Cosentyx®
secukinumab
可善挺®

Psoriatic disease is deeper than skin

Start early with The Complete Cosentyx Approach™*

Psoriatic disease may be progressing inside the body, even if the skin looks clear.[1]
With **The Complete Cosentyx Approach™**, you can address the underlying cause of the disease—and **decrease systemic inflammation.**[2]

Look Better

Fast and sustained long-term efficacy in skin and persistent troublesome areas[3-6]

Move Better

Helps prevent future irreversible joint damage.[7]
Joint relief for patients with PsA, including Axial symptoms[8]

Feel Better

Fast and significant improvement in **quality of life**[4,9]

Make Cosentyx your priority for improving patient outcomes

Indications

♦ **Adult plaque psoriasis:** Cosentyx is indicated for the treatment of moderate to severe plaque psoriasis in adults who are candidates for systemic therapy. ♦ **Psoriatic arthritis:** Cosentyx, alone or in combination with methotrexate (MTX), is indicated for the treatment of active psoriatic arthritis in adult patients when the response to previous disease-modifying anti-rheumatic drug (DMARD) therapy has been inadequate. ♦ **Axial spondyloarthritis (axSpA):** *Ankylosing spondylitis (AS, radiographic axial spondyloarthritis)* Cosentyx is indicated for the treatment of active ankylosing spondylitis in adults who have responded inadequately to conventional therapy. *Non-radiographic axial spondyloarthritis (nr-axSpA)* Cosentyx is indicated for the treatment of active non-radiographic axial spondyloarthritis with objective signs of inflammation as indicated by elevated C-reactive protein (CRP) and/or magnetic resonance imaging (MRI) evidence in adults who have responded inadequately to non-steroidal anti-inflammatory drugs (NSAIDs).[10]

*The Complete Cosentyx Approach™ is defined as efficacy in both skin and persistent psoriasis manifestation in nails, scalp, palms, and soles, as well as psoriatic arthritis; controls irreversible structural damage (PsA) and improves quality of life.

PsA=psoriatic arthritis.

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Cosentyx®

Important note: Before prescribing, consult full prescribing information. **Presentation:** Secukinumab. Solution for subcutaneous injection in pre-filled syringe or pre-filled pen contain 150 mg or 300 mg of secukinumab. **Indications: Plaque psoriasis** Cosentyx is indicated for the treatment of moderate to severe plaque psoriasis in adults who are candidates for systemic therapy. **Psoriatic arthritis** Cosentyx, alone or in combination with methotrexate (MTX), is indicated for the treatment of active psoriatic arthritis in adult patients when the response to previous disease modifying anti rheumatic drug (DMARD) therapy has been inadequate. **Axial spondyloarthritis (axSpA):** *Ankylosing spondylitis (AS, radiographic axial spondyloarthritis)* Cosentyx is indicated for the treatment of active ankylosing spondylitis in adults who have responded inadequately to conventional therapy. *Non-radiographic axial spondyloarthritis (nr-axSpA)* Cosentyx is indicated for the treatment of active non-radiographic axial spondyloarthritis with objective signs of inflammation as indicated by elevated C-reactive protein (CRP) and/or magnetic resonance imaging (MRI) evidence in adults who have responded inadequately to non-steroidal anti-inflammatory drugs (NSAIDs). **Dosage and administration:** *Dosage* **Plaque psoriasis:** The recommended dose is 300 mg by subcutaneous injection with initial dosing at weeks 0, 1, 2, 3 and 4, followed by monthly maintenance dosing. Each 300 mg dose is given as two subcutaneous injections of 150 mg or one subcutaneous injection of 300 mg. **Psoriatic arthritis:** For patients with concomitant moderate to severe plaque psoriasis or who are anti TNFα inadequate responders (IR), the recommended dose is 300 mg by subcutaneous injection with initial dosing at weeks 0, 1, 2, 3 and 4, followed by monthly maintenance dosing. Based on clinical response, the dose can be increased to 300 mg. **Axial spondyloarthritis (axSpA):** *Ankylosing spondylitis (AS, radiographic axial spondyloarthritis)* The recommended dose is 150 mg by subcutaneous injection with initial dosing at weeks 0, 1, 2, 3 and 4, followed by monthly maintenance dosing. Based on clinical response, the dose can be increased to 300 mg. Each 300 mg dose is given as two subcutaneous injections of 150 mg or one subcutaneous injection of 300 mg. *Non-radiographic axial spondyloarthritis (nr-axSpA)* The recommended dose is 150 mg by subcutaneous injection with initial dosing at weeks 0, 1, 2, 3 and 4, followed by monthly maintenance dosing. For all of the above indications, available data suggest that a clinical response is usually achieved within 16 weeks of treatment. Consideration should be given to discontinuing treatment in patients who have shown no response by 16 weeks of treatment. Some patients with an initial partial response may subsequently improve with continued treatment beyond 16 weeks. ♦ **Elderly patients (aged 65 years and over):** No dose adjustment is required. ♦ **Paediatric population (aged below 18 years):** The safety and efficacy of Cosentyx in children below the age of 18 years have not yet been established. No data are available. ♦ **Renal impairment / hepatic impairment:** Cosentyx has not been studied in these patient populations. No dose recommendations can be made. *Administration* Cosentyx is to be administered by subcutaneous injection. If possible, areas of the skin that show psoriasis should be avoided as injection sites. The solution in the pen must not be shaken. **Contraindications:** ♦ Cosentyx is contraindicated in patients who have/had hypersensitivity reactions to the active substance or to any of the excipients. ♦ Clinically important, active infection (e.g. active tuberculosis) **Warnings and precautions:** ♦ **Traceability:** In order to improve the traceability of biological medicinal products, the name and the batch number of the administered product should be clearly recorded. ♦ **Infections:** Cosentyx has the potential to increase the risk of infections. Caution in patients with chronic infection or history of recurrent infection. Patients should be instructed to seek medical advice if signs or symptoms suggestive of an infection occur. If a patient develops a serious infection, the patient should be closely monitored and Cosentyx should not be administered until the infection resolves. Anti-tuberculosis therapy should be considered prior to initiation of Cosentyx in patients with latent tuberculosis. Cosentyx should not be given to patients with active tuberculosis. ♦ **Inflammatory bowel disease (including Crohn's disease and ulcerative colitis):** If a patient develops signs and symptoms of inflammatory bowel disease or experiences an exacerbation of pre-existing inflammatory bowel disease, secukinumab should be discontinued and appropriate medical management should be initiated. ♦ **Hypersensitivity reactions:** In clinical studies, rare cases of anaphylactic reactions have been observed in patients receiving Cosentyx. Administration of Cosentyx should be discontinued immediately and appropriate therapy initiated if an anaphylactic or other serious allergic reaction occurs. ♦ **Latex-sensitive individuals (for 150 mg pre-filled syringe/pen only):** The removable cap of the Cosentyx 150 mg pre-filled syringe/pen contains a derivative of natural rubber latex. ♦ **Vaccinations:** Cosentyx should not be given concurrently with live vaccines. Patients receiving Cosentyx may receive concurrent inactivated or non-live vaccinations. ♦ **Concomitant immunosuppressive therapy:** In psoriasis studies, the safety and efficacy of Cosentyx in combination with immunosuppressants, including biologics, or phototherapy have not been evaluated. Secukinumab was administered concomitantly with methotrexate (MTX), sulfasalazine and/or corticosteroids in arthritis studies (including in patients with psoriatic arthritis and ankylosing spondylitis). Caution should be exercised when considering concomitant use of other immunosuppressants and secukinumab. **Women of childbearing potential:** Effective method of contraception during treatment and for at least 20 weeks after treatment should be used. **Pregnancy:** There are no adequate data from the use of secukinumab in pregnant women. As a precautionary measure, it is preferable to avoid the use of Cosentyx in pregnancy. **Breast-feeding:** It is not known whether secukinumab is excreted in human milk. Because of the potential for adverse reactions in nursing infants from secukinumab, a decision on whether to discontinue breast feeding during treatment and up to 20 weeks after treatment or to discontinue therapy with Cosentyx must be made taking into account the benefit of breast feeding to the child and the benefit of Cosentyx therapy to the woman. **Adverse drug reactions: Very common (≥10%):** Upper respiratory tract infections. **Common (≥1% to <10%):** Oral herpes, tinea pedis, headache, diarrhea, rhinorrhea, nausea, fatigue. **Uncommon (≥0.1% to <1%):** Oral candidiasis, neutropenia, otitis externa, lower respiratory tract infections, conjunctivitis, inflammatory bowel disease, urticaria. **Rare (≥0.01% to <0.1%):** Anaphylactic reactions, exfoliative dermatitis. **Not known (cannot be estimated from the available data):** Mucosal and cutaneous candidiasis (including oesophageal candidiasis) **Interactions:** Live vaccines should not be given concurrently with Cosentyx. In a study in subjects with plaque psoriasis, no interaction was observed between secukinumab and midazolam (CYP3A4 substrate). No interaction was seen when Cosentyx was administered concomitantly with methotrexate (MTX) and/or corticosteroids in arthritis studies (including in patients with psoriatic arthritis and axial spondyloarthritis). **Packs: For 150 mg pre-filled syringe/pen:** Solution in pre-filled syringe: 1's or 2's. Solution in pre-filled pen; 1's or 2's. **For 300 mg pre-filled syringe/pen:** Solution in pre-filled syringe: 1's. Solution in pre-filled pen; 1's. Not all pack sizes are marketed. **Legal classification:** P1S1S3 Last revision: Sep 2021 Ref: EU Mar 2021

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The materials for Cosentyx contained in virtual exhibition are approved for use only in Hong Kong. Prescribing information may vary depending on local approval in each country/location. Before prescribing any product, always refer to local materials such as the prescribing information and/or the Summary of Product Characteristics (SPC).

For Hong Kong Healthcare Professionals' reference and sole use only.

Novartis Pharmaceuticals (HK) Limited
7/F, Citi Tower, One Bay East, 83 Hoi Bun Road,
Kwun Tong, Hong Kong
Tel: 2882 5222 Fax: 2573 8804

NOVARTIS

Reference: 1 Xolair (omalizumab) Hong Kong Product Insert. (Ref. EU Jul 2020)

In chronic spontaneous urticaria (CSU)

THINK IgE

Xolair is indicated as add-on therapy for the treatment of CSU in adult and adolescent (12 years and above) patients with inadequate response to H1-antihistamine treatment.[1]

Xolair® omalizumab

Reference: 1 Xolair (omalizumab) Hong Kong Product Insert. (Ref. EU Jul 2020)

XOLAIR®
Important note: Before prescribing, consult full prescribing information. **Active substance:** Omalizumab is a humanized monoclonal antibody manufactured from a mammalian cell line. **Presentation: Solution for injection** Clear to slightly opalescent, colorless to pale brownish-yellow solution in a pre-filled syringe. Each pre- filled syringe of 1 mL contains 150 mg of omalizumab. **Indications:** Allergic asthma Xolair is indicated in adults, adolescents and children (6 to <12 years of age). Xolair treatment should only be considered for patients with convincing IgE (immunoglobulin E) mediated asthma. Adults and adolescents (12 years of age and older) Xolair is indicated as add-on therapy to improve asthma control in patients with severe persistent allergic asthma who have a positive skin test or in vitro reactivity to a perennial aeroallergen and who have reduced lung function (FEV1 <80%) as well as frequent daytime symptoms or night-time awakenings and who have had multiple documented severe asthma exacerbations despite daily high- dose inhaled corticosteroids, plus a long-acting inhaled beta2-agonist. Children (6 to <12 years of age) Xolair is indicated as add-on therapy to improve asthma control in patients with severe persistent allergic asthma who have a positive skin test or in vitro reactivity to a perennial aeroallergen and frequent daytime symptoms or night-time awakenings and who have had multiple documented severe asthma exacerbations despite daily high-dose inhaled corticosteroids, plus a long-acting inhaled beta2-agonist. Chronic spontaneous urticaria (CSU) Xolair is indicated as add-on therapy for the treatment of chronic spontaneous urticaria in adult and adolescent (12 years and above) patients with inadequate response to H1 antihistamine treatment. **Dosage: For allergic asthma:** 75-600 mg of Xolair in one to four injections s.c. every two to four weeks according to body weight and baseline serum total IgE level. In allergic asthma, the safety and efficacy of Xolair in paediatric patients below the age of 6 years have not been established. **For CSU:** The recommended dose is 300 mg by subcutaneous injection every four weeks. Prescribers are advised to periodically reassess the need for continued therapy. Clinical trial experience of long- term treatment beyond 6 months in this indication is limited. In CSU, the safety and efficacy of Xolair in paediatric patients below the age of 12 years have not been established. **Contraindications:** Hypersensitivity to omalizumab or to any of the excipients. **Method of administration:** For subcutaneous administration only. Doses of more than 150 mg should be divided across two or more injection sites. Patients with no known history of anaphylaxis may self-inject Xolair or be injected by a caregiver from the 4th dose onwards if a physician determines that this is appropriate. The patient or the caregiver must have been trained in the correct injection technique and the recognition of the early signs and symptoms of serious allergic reactions. Patients or caregivers should be instructed to inject the full amount of Xolair according to the instructions provided in the package leaflet. **Warnings/Precautions:** Not indicated for the treatment of acute asthma exacerbations, acute bronchospasm or status asthmaticus; no abrupt discontinuation of corticosteroids; caution in use with renal or hepatic impaired patients, patients with autoimmune diseases and immune complex-mediated conditions; patients with high risk of parasitic infections; occurrence of local or systemic allergic reactions, including anaphylaxis or serum sickness; a history of anaphylaxis may be a risk factor; the first 3 doses for all patients and all injections for patients with a history of anaphylaxis should be administered by a healthcare professional latex-sensitive individuals: a derivative of natural rubber latex is present in the removable needle cap of the pre-filled syringe. **Pregnancy, lactation, females and males of reproductive potential** Pregnancy A prospective pregnancy registry study showed the prevalence of major congenital anomalies was similar (8.1% vs 8.9%) between patients treated with Xolair and disease matched patients not treated with Xolair. Animal studies showed no evidence of fetal harm up to approximately 8 times the maximum recommended human dose (MRHD). Lactation Omalizumab is expected to be present in human milk. The developmental and health benefits of breastfeeding should be considered along with the mother's clinical need for Xolair and any potential adverse effects on the breastfed child from omalizumab or from the underlying maternal condition. Novartis Page 3 NSS Jul 2016 Xolair **Adverse drug reactions:** Allergic Asthma **Very Common:** Pyrexia** **Common:** Headache*, Abdominal pain upper**, Injection site reactions such as swelling, erythema, pain, pruritus **Uncommon:** Pharyngitis, Syncope, Paraesthesia, Somnolence, Dizziness, Postural hypotension, Flushing, Allergic bronchospasm, Coughing, Dyspeptic signs and symptoms, Diarrhoea, Nausea, Photosensitivity, Urticaria, Rash, Pruritus, Influenza-like illness, Swelling arms, Weight increase, Fatigue **Rare:** Parasitic infection, Anaphylactic reaction, Other serious allergic conditions, Anti-omalizumab antibody development, Laryngoedema, Angioedema, Systemic lupus erythematosus (SLE) **Frequency not known:** Idiopathic thrombocytopenia (including severe cases), Serum sickness (may include fever and lymphadenopathy), Allergic granulomatous vasculitis (i.e. Churg-Strauss syndrome), Alopecia, Arthralgia, Myalgia, Joint Swelling * Very common in children 6 to <12 years of age ** In children 6 to <12 years of age Chronic spontaneous urticaria **Common:** Sinusitis, Headache, Arthralgia, Injection site reaction, Upper respiratory tract infection **Packs:** 150 mg Omalizumab. **Solution for injection:** 1 ml solution in a pre-filled syringe. **Legal classification:** P1S1S3
Reference: EU Jul 2020

NOVARTIS
Novartis Pharmaceuticals (HK) Ltd
7/F, Citi Tower, One Bay East, 83 Hoi Bun Road,
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Tel: (852) 2882 5222 Fax: (852) 2577 0274

HK2210127185

HISTOPATHOLOGY

Skin biopsy from the edge of a blister will show classical histopathological features of suprabasilar cleft with acantholysis and tombstoning of basal keratinocytes. Direct immunofluorescence of perilesional skin reveals intercellular IgG deposition, and indirect immunofluorescence using monkey oesophagus or human skin for PV will show circulating IgG antibodies against epithelial cell surfaces. Enzyme-linked immunosorbent assay (ELISA) from blood serum will show serum IgG against desmoglein 1 (Dsg1), and desmoglein 3 (Dsg3) or both (in mucocutaneous PV) in more than 98.5% of patients' samples. These tests are commercially available in Hong Kong.

EVALUATION

Patients with PV should be carefully evaluated and a thorough clinical examination including scalp, eyes, oral mucosa, nasal cavity, and genital mucosa should be done. Due to painful oral involvement, patients often have diminished nutritional status. In patients with child bearing potential, urine pregnancy test, and autoimmune workup should be performed. A bone mineral density should be performed for baseline monitoring and repeated to monitor for the development of osteoporosis in patients who will be treated with a prolonged course of corticosteroids. There are two validated severity scoring systems for PV, which include the Pemphigus Disease Area Index (PDAI) and Autoimmune Bullous Skin Disorder Intensity Score (ABSIS).[4]

TREATMENT

Traditionally, the first-line treatment for PV was systemic corticosteroids, including oral prednisolone with or without adjuvant immunosuppressive agents. However, long-term corticosteroids can lead to multiple side effects, including (1) musculoskeletal adverse effects such as steroid-induced myopathy and osteoporosis, (2) adverse metabolic effects such as weight gain, cushingoid features, adrenal insufficiency, hypertension, hyperlipidaemia, and diabetes mellitus, and (3) neuropsychiatric adverse effects such as insomnia, depression, and psychosis.

Steroid sparing systemic agents such as azathioprine, mycophenolate mofetil, cyclosporin, methotrexate, cyclophosphamide, dapsone, plasmapheresis, immunoadsorption and intravenous immunoglobulin provided variable success in the treatment of PV. Bone marrow suppression may be seen with traditional immunosuppressants and monitoring of blood counts, and liver/renal function tests are vital. Hepatitis B status needs to be determined before the commencement of treatment.

In the recent decade, biologics have become increasingly used in the dermatological field. Rituximab is a chimeric monoclonal antibody that targets against CD20, a surface antigen present on B cells, thereby depleting normal and pathogenic B cells and allowing a new population of B cells to be produced. It is administered intravenously and response is usually seen within 12 weeks. Due to its relatively slow onset of action, concomitant corticosteroids is often used in combination with the treatment of rituximab. Rituximab was first approved by the U.S. Food and Drug Administration for treatment of B-cell non-Hodgkin lymphoma, and further approved for use for moderate to severe PV in 2018 for the treatment of adults with moderate to severe PV based on a study published by Joly et al. in the Lancet in 2017.[5] The study compared patients with PV in rituximab plus short-term corticosteroid to corticosteroid alone as a first-line treatment in patients with newly diagnosed moderate to severe PV. The primary endpoint of the study was complete remission at 24 months without the use of steroids for two or more months. Results of the study showed that 89% of PV patients treated with rituximab and low-dose corticosteroid achieved primary endpoint compared to 34% of PV treated with corticosteroid alone, concluding that data from the trial suggest that first-line use of rituximab plus short-term prednisolone was more effective than prednisone alone with fewer adverse events.

SIDE EFFECTS

Common side effects from rituximab include infusion-related reactions. Clinicians also need to be aware of infections such as pneumonia, urinary tract infections and opportunistic infections upon review of patients. Baseline HIV, hepatitis B and C screening should be done, and patients with chronic hepatitis B must be started on anti-viral prophylaxis. As tuberculosis is more common in South East Asia, all patients should be screened for latent tuberculosis infection with a chest radiograph, and blood sent for Interferon-Gamma Release Assay (IGRA) prior to the initiation of rituximab. Patients are usually admitted to a day-care centre for intravenous infusion of rituximab. Rituximab is also costly and typical rheumatoid arthritis protocol therapy of one gram once given at baseline and two weeks later.

Rituximab should be initiated as soon as possible for patients who are newly or recently diagnosed with pemphigus as data have been shown that patients who are initiated on early treatment have a higher chance of achieving complete remission.[6,7] There are no set guidelines for optimal dosing of rituximab after the initial treatment dose. Due to the costly nature of rituximab, in clinical practice, the author monitors the patient clinically and serologically (Dsg 1 and 3 levels, and anti-skin antibody levels), and doses rituximab if the disease relapses.

OTHER EMERGING THERAPIES

Beyond rituximab, other novel anti-B cell monoclonal antibodies are being developed and investigated for the treatment of pemphigus, such as ofatumumab, and veltuzumab. Other therapies which target B-cell derived B-cell activating factor (BAFF) such as belimumab,[8] tabalumab,[9] a proliferation-inducing ligand (APRIL), altered peptide ligands, Bruton kinase (BTK), anti-interleukin, anti-interleukin 6, anti-CD154, p38 mitogen-activated protein kinase (p38MAPK), and chimeric antigen receptor therapy (CAAR) against autoantigen Dsg 3 are being studied for the treatment of patients with pemphigus.[10,11]

Efgartigimod is an engineered Fc fragment derived from human IgG1; it binds to IgG binding site of neonatal Fc receptor, reducing levels of IgG. Its use was recently investigated in a phase II multicentre, open-label feasibility trial in the treatment of pemphigus.[12]

The aim of new therapies is to provide pathology-focused therapeutic options leading to long-term sustainable effects allowing for complete remission with the least side effects, particularly immunosuppression.

CONCLUSION

The use of rituximab with low-dose corticosteroid in the management of PV has revolutionised the treatment of the disease allowing for higher rate of complete remission and fewer side effects compared to conventional high-dose corticosteroid as demonstrated by the French group. With more understanding of the pathophysiological mechanisms underlying the cause of PV, it is encouraging that new therapies targeting specific signalling molecules are being developed for the treatment of pemphigus, allowing for long-term remission with minimal adverse effects.

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Stevens-Johnson Syndrome and Toxic Epidermal Necrolysis - Revisit

Dr Christina MT CHEUNG

MBChB (CUHK), MRCP (UK), FHKCP, FHKAM (Medicine)

Specialist in Dermatology and Venereology
Consultant, Prince of Wales Hospital

INTRODUCTION

Stevens-Johnson syndrome (SJS) and toxic epidermal necrolysis (TEN) are rare, severe cutaneous adverse reactions characterised by epidermal necrosis and detachment involving the skin and mucous membranes. They belong to the same disease spectrum and are classified according to the percentage of body surface area affected, with < 10%, 10-30%, and > 30% of epidermal detachment defined as SJS, SJS-TEN overlap, and TEN respectively.[1] In this article, the aetiology, pathogenesis, clinical characteristics, prognosis and updated management of SJS and TEN will be discussed.

AETIOLOGY

SJS and TEN are mostly caused by drugs. Any drugs can be the potential culprit, but high-risk medications include anti-convulsants, allopurinol, anti-microbials, and oxicam non-steroid anti-inflammatory drugs.[2,3] (Table 1)

Table 1: High-risk medications for SJS/TEN (Adapted from Roujeau JC, Kelly JP, Naldi L, et al. Medication use and the risk of Stevens-Johnson syndrome or toxic epidermal necrolysis. N Engl J Med. 1995; 333:1600-7. and Wang YH, Chen CB, Tassaneeyakul W, et al. The Medication Risk of Stevens -Johnson Syndrome and Toxic Epidermal Necrolysis in Asians: The Major Drug Causality and Comparison With the US FDA Label. Clin Pharmacol Ther 2019; 105(1):112-120.)

Anti-convulsants	- Carbamazepine - Phenytoin - Lamotrigine - Oxcarbazepine - Phenobarbital
Allopurinol	
Anti-microbials	- Aminopenicillins - Cephalosporins - Sulphonamides - Quinolones - Tetracyclines - Nevirapine
Oxicam non-steroid anti-inflammatory drugs	- Piroxicam - Meloxicam - Tenoxicam

SJS/TEN typically develop within eight weeks after the intake of the culprit drug, with a mean latent period (i.e. the time between the initial drug use and the onset of SJS/TEN) of six days and two weeks.[4] The determination of the culprit medication can be guided by ALDEN, an algorithm which takes into account six parameters: the latent period, the probability of the presence of the drug in the body on onset day, any previous history of adverse drug reaction, the effect of drug de-challenge, drug notoriety, and any alternative aetiology (Table 2).[5] A score of ≥ 6 is classified as very probable, 4-5 as probable, 2-3 as possible, 0-1 as unlikely, and < 0 as very unlikely.

In around 15% of cases, no culprit drug can be found.[6] Other possible aetiologies include infections such as *Mycoplasma pneumonia*, dengue virus, and cytomegalovirus infection, contrast medium, and vaccinations.[4]

Table 2: ALDEN: Algorithm for drug causality for epidermal necrolysis (simplified) (Adapted from Sassolas B, Haddad C, Mockenhaupt M, et al. ALDEN, an algorithm for assessment of drug causality in Stevens-Johnson syndrome and toxic epidermal necrolysis: comparison with case-control analysis. Clin Pharmacol Ther 2010;88:60.)

Parameter	Score
Latent period - 5-28 days - 29-56 days - 1-4 days - > 56 days - Drug started on/ after onset day	 3 2 1 -1 -3
Presence of drug in the body on onset day - Drug stopped ≤ 5x elimination half-life before onset day - Drug stopped > 5x elimination half-life before onset day	 0 -3
Previous history of adverse reaction - SJS/TEN from the same drug - SJS/TEN from similar drug/other reaction from same drug - Other reactions from a similar drug - No history of exposure - Previous use without any reaction	 4 2 1 0 -2
De-challenge: Drug continued without harm	-2
Drug notoriety - High risk - Lower risk - Under surveillance - All other drugs - No evidence of association	 3 2 1 0 -1
Other possible aetiologies: If there are multiple drugs and at least one drug has a score >3, subtract one point from each of the other drugs	-1

PATHOGENESIS

The pathogenesis of SJS/TEN is not completely understood. Nonetheless, SJS/TEN are now believed to be a drug-specific cell-mediated reaction against keratinocytes, leading to massive epidermal apoptosis. Cytotoxic T cells, natural killer cells and various soluble mediators such as Fas ligand, perforin, granzyme B, tumour necrosis factor-alpha (TNF-α), and granulysin

have been proposed to be major inducers/ mediators in the disease process.[4] Chung et al. demonstrated that granulysin, a cytolytic protein produced by cytotoxic T cells and natural killer cells, played a key role in inducing extensive keratinocyte necrosis, and granulysin level in blisters correlated with disease severity.[7] Genetic susceptibility with certain major histocompatibility complex (MHC) allotypes is also involved in the pathogenesis of SJS/TEN. A strong association exists between a particular MHC allotype and a specific drug, with classic examples including HLA-B*1502 and carbamazepine in Han Chinese, and HLA-B*5801 and allopurinol.[4] It is now mandatory to check HLA-B*1502 status before the use of carbamazepine in Han Chinese, and assessment of HLA-B*5801 status is highly recommended before the start of allopurinol.

CLINICAL CHARACTERISTICS

SJS and TEN are characterised by mucocutaneous necrosis and detachment. Typically, patients present with a prodrome of fever, malaise, anorexia, and sore throat before the onset of rashes, mimicking simple upper respiratory tract infection. This is followed by the development of maculopapular erythematous eruption and atypical targetoid macules, initially over the face and trunk and later spread distally to extremities.[1] Skin pain/ tenderness is an important feature, and this differentiates early SJS/TEN from common self-limiting maculopapular drug eruption. As the disease progresses, the epidermis will turn dusky and necrotic with a grey hue, with the formation of flaccid blisters and skin erosions (Fig. 1). Nikolsky sign is often positive, in which separation of the epidermis from the dermis can be induced by gentle lateral pressure on the skin. Mucositis with painful inflammation and ulceration is common. The most frequently affected mucosa is the oral cavity, followed by ocular and genital involvement.[4] Pulmonary and gastrointestinal tract can also be afflicted occasionally.

Apart from mucocutaneous features, systemic complications can occur as a result of acute skin failure. These include but not limited to hypovolemia, electrolytes imbalance, temperature dysregulation, hyper-catabolism, secondary infection, disseminated intravascular coagulopathy, and multiple organ dysfunction syndrome.

Fig 1:Dusky necrotic skin with flaccid blisters. (Clinical photo from personal collection)

PROGNOSIS

SJS and TEN are associated with significant morbidity and mortality. The mortality rate of SJS ranges from 1% to 5%, while that of TEN is between 25% and 30%. Sepsis and multiorgan failure are the most common causes of death.[8] Survivors are at risk of long-term sequelae, for example cutaneous dyspigmentation and scarring; oral complications such as sicca syndrome, gingival inflammation, and periodontal disease; ocular complications such as symblepharon, photophobia, corneal scarring, and even blindness; genitourinary complications, such as dyspareunia, adhesions, stenosis and strictures; and other pulmonary and gastrointestinal diseases.[8]

The Severity-of-Illness Score for Toxic Epidermal Necrolysis (SCORTEN) is a prognostic scoring system for SJS/TEN, which was first developed and validated in France,[9] and was later proven to be an accurate predictor of hospital mortality worldwide.[10] It consists of seven clinical parameters, with one point allotted to each variable. Increasing scores predicts higher mortality rate. The details of SCORTEN are shown in Table 3. SCORTEN should be calculated in all SJS/TEN patients on admission.

Table 3. SCORTEN, The Severity-of-Illness Score for Toxic Epidermal Necrolysis (Adapted from Bastuji-Garin S, Fouchard N, Bertocchi M, et al. SCORTEN: a severity-of-illness score for toxic epidermal necrolysis. J Invest Dermatol 2000;115:149-153.)

Clinical parameters	
- Age > 40 years - Presence of malignancy - Tachycardia > 120 beats per minute - Epidermal detachment of > 10% of total body surface area - Serum urea > 10mmol/l - Serum glucose > 14mmol/l - Bicarbonate < 20mmol/l	
Number of parameters	Mortality rate
0-1	3.2%
2	12.1%
3	35.3%
4	58.3%
>/= 5	90%

MANAGEMENT UPDATE

Despite the significant mortality, there is by far no active therapeutic agent that gives definite survival benefit in SJS/TEN.[6,8] Early recognition of the disease, rapid withdrawal of offending agents, and best supportive care remain the mainstay of management. Best supportive treatment includes fluid resuscitation, nutritional support, wound dressing, pain control, and monitoring and treatment for sepsis and other complications. Early transferal to the intensive care unit or burn unit may improve survival in TEN cases.[6] A multidisciplinary team including dermatologists, clinicians, ophthalmologists, skin care specialised nurses, dietitians, and other specialists indicated, who are experienced in the management of SJS/TEN, is important to optimise patient care.

Based on the pathogenesis of SJS/TEN, immunomodulating agents, such as intravenous immunoglobulins (IVIG), systemic steroids, and cyclosporin, have been proposed to improve clinical outcome. Traditionally, IVIG is commonly used as the first-line active treatment for SJS/TEN. The therapeutic potential of IVIG is thought to be due to the inhibition of Fas-Fas ligand interaction, thus aborting further keratinocyte apoptosis.[11] However, clinical studies on the efficacy of IVIG are conflicting. While early case series and retrospective studies showed potential survival benefits with the use of IVIG,[12-14] subsequent studies, including systematic review and meta-analysis failed to demonstrate significant survival advantage over best supportive care.[15,16] In fact, with a better understanding of the pathogenesis of SJS/TEN, granulysin, instead of Fas-ligand, is the most important and key mediator in the disease process.

Due to the rarity of SJS/TEN, there is insufficient evidence to recommend the widespread use of a particular treatment regimen. A large European retrospective cohort suggested a trend for the beneficial effects of corticosteroids.[17] Potential survival advantage was also noted in patients receiving cyclosporine in retrospective studies.[18] In 2018, a prospective randomised controlled trial that compared TNF-α antagonist etanercept and systemic corticosteroids, showed that etanercept decreased the SCORTEN-predicted mortality rate of 17.7% to an actual observed mortality rate of 8.3%. It also significantly reduced the skin-healing time compared to corticosteroids.[19] Recently, two large systematic reviews and network meta-analyses found that cyclosporin, etanercept, and a combination of IVIG and systemic corticosteroids are promising therapies that may reduce mortality in SJS/TEN, though the results are limited by the heterogeneity of studies and paucity of randomised controlled trials.[20,21]

To conclude, until further evidence becomes available, management of SJS/TEN should focus on early diagnosis and prompt withdrawal of offending agents, and best supportive treatment by a dedicated multidisciplinary team. The early use of cyclosporin, etanercept, or a combination of IVIG and systemic corticosteroids can be considered in selected cases.

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COVID-19 Vaccine and the Skin Reactions

Dr Christina SM WONG

MBBS(HK), MRCP (UK), MRCS (Edin), MSc (Clinical Dermatology)(Lond), DCH(Lond), FHKCP, FHKAM(Medicine), FRCP(Edin)

Specialist in Dermatology and Venereology
Consultant, Queen Mary Hospital

Dr Christina SM WONG

INTRODUCTION

The coronavirus disease 2019 has become pandemic after it was first diagnosed in Wuhan, China, in November 2019. As of 1st September 2022, the cumulative number of COVID-19 infections was 604 million cases and 6.49 million death worldwide[1]; while in Hong Kong, there were 1.58 million confirmed COVID-19 cases, and the cumulative number of deaths was 9,477[2], with a median age of 86 years (range 0-112) and a male-to-female ratio of 1.42. More than 70% of the deceased were unvaccinated, and over 50% had a history of known chronic disease. The development of vaccines against severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) ensued soon after the identification of the virus. Among the vaccines developed by more than 100 companies and institutes, the two main vaccines approved to be used by the Hong Kong SAR Government are i) messenger ribonucleic acid (mRNA) vaccine –BNT162b2 Comirnaty (BioNTech/Pfizer), which was first approved in December 2020 in the U.K.[3], and ii) inactivated whole-virus vaccine with aluminium adjuvant-CoronaVac (Sinovac), which was first approved in February 2021 in China[4]; other vaccines such as other mRNA vaccines (mRNA-1273, Moderna), viral vector platforms –ChAdOx1 (AstraZeneca) vaccine and Protein subunit vaccines (Novavax) are not used locally for mass vaccination.[5] As of 5th September 2022, 18.7 million doses have been administered in Hong Kong, 6.6 million (90.7%) of the population have been fully vaccinated with two doses[6], while 12.6 billion doses have been given worldwide, and 4.92 billion (63.1%) of the population worldwide have been fully vaccinated.[7]

VACCINE, IMMUNITY AND SKIN REACTIONS

A potent induction of antiviral immunity is achieved via humoral and cellular immune responses. In order to elicit sufficient immunogenicity, most vaccines require repeated delivery, with/without adjuvants used, in order to adequately initiate the innate immune response and hence, to elicit the adaptive immune response. The available COVID-19 mRNA vaccines do not necessitate adjuvants as extracellular nucleic acid molecules are capable of activating pattern-recognition receptors such as Toll-like receptors (TLR) to mediate immunogenic effects.[8,9] Of note, adjuvants can drive off-target inflammatory reactions and hence result in vaccine-derived skin toxicity.[10] The skin is commonly involved in vaccine-derived adverse reactions as expected findings since viral infections themselves may produce characteristic exanthems, such as measles in morbillivirus infection or produce para-viral cutaneous eruptions, such as erythema multiforme with herpes simplex virus, Gianotti-Crosti syndrome in hepatitis B virus and papular-purpuric "gloves and socks" syndrome in parvovirus B19.[10-11]

SKIN REACTIONS AFTER COVID VACCINATION

Most of the cutaneous reactions reported in the literature relate to mRNA COVID-19 vaccinations with 1.9 % of individuals without sex predilection after the first dose[12], while some reports relate to inactivated virus vaccines and others.[3-5] Local injection site reactions and non-specific erythema & itch (other than at the injection site) were the most common cutaneous reactions, which were reported by 1-10%.[3,4,12,13] From various studies conducted previously in 2021, of those who self-reported cutaneous reaction after the first dose, 55-95% received their second dose, and only 43% of them experienced second-dose recurrence. However, most are of less severity and self-limiting.[12-15]

COMMON TYPES OF POST-VACCINATION SKIN REACTIONS

Most of the reported cutaneous adverse reactions represent a spectrum of cutaneous responses such as local reaction, urticaria and morbilliform eruptions. Local injection site reaction represents local swelling, erythema and pain over the vaccinated site, usually the arm, which is most commonly reported (1-10%) with a median onset of one day after vaccination.[3,12-13] Urticaria (< 1%) is reported with a median onset of 2-3 days after vaccination over both arms, trunks, and legs. Morbilliform eruptions, with a median onset of 2 to 3 days after vaccination, often distributed over the trunk, arms and legs, are also reported. The COVID vaccine has also caused delayed localised hypersensitivity reactions - "COVID arm" (< 1%), which represents a pruritic painful erythematous reaction near the injection site.[16] The affected area becomes edematous and raised (urticated) and, less commonly, it presented with the annular pattern. The median onset was seven days after vaccination which lasted for five days, but it might last up to 21 days if severe. Most lesions are self-limiting, and topical steroids, oral antihistamines and cool compress are the common treatment options.

UNCOMMON SKIN REACTIONS TO COVID VACCINES

Interestingly, local facial swelling at the site of cosmetic fillers has been reported after COVID-19 vaccinations (both BNTb126b2 and mRNA1237 vaccines).[17] This probably represents a delayed hypersensitivity to filler after the administration of immunologic triggers, although similar reactions have been previously reported after other viral illnesses and influenza vaccines.[10] There are other uncommon skin reactions, including erythromelalgia (bilateral lower leg erythema), which has occurred in response to other vaccines such as influenza.[12] Similarly, pityriasis rosea has been reported after COVID-19 infection and vaccination.[18] Case reports of varicella-zoster and herpes simplex flares have been documented following COVID-19 vaccination.[19] Pernio/chilblains mimicking 'COVID toes' has been reported in COVID-19 infection as well as after the COVID-19 vaccine, which suggests potential host immune response to viral particles replicated by the vaccine. In particular, young subjects without severe COVID-19 have been found to experience chilblains and erythematous lesions of toes 'COVID toes', which are associated with type-I interferon (IFN) elevation in the skin leading to a type of vasculitis.[20] It is postulated that the TLR-7 and TLR-9 induced by the new COVID-19 vaccine might upregulate the interferon-stimulated genes and contribute to the innate immune response with robust type I IFN release, accounting for chilblain and other cutaneous features.[13]

Moreover, certain types of COVID vaccines have led to raised levels of interleukin (IL)-2, Tumour necrosis factor (TNF)-α and IFN-γ, which are the typical cytokines involved in lichen planus.[21] Literature also reported erythema multiforme (EM) post-first dose of mRNA COVID-19 vaccine; EM is the main major type and could represent a continuous spectrum of life-threatening toxic epithelial reactions such as Steven-Johnson Syndrome (SJS)/Toxic Epidermal Necrolysis (TEN).[22] Other more severe cutaneous adverse reactions, including neutrophilic and pustular drug reactions, such as acute generalised exanthematous pustulosis (AGEP) and pustular flare of psoriasis, have been reported after an inactivated viral vector COVID-19 vaccination. There is also a case report of AGEP overlapping with drug reaction with eosinophilia and systemic symptoms (DRESS) after COVID-19 vaccination.[22-24]

EXACERBATION OF UNDERLYING INFLAMMATORY SKIN CONDITIONS AND BLISTERING AUTOIMMUNE DISEASES

COVID-19 vaccination may trigger an exacerbation of a pre-existing inflammatory skin condition such as psoriasis and atopic dermatitis. New onset of immune-mediated diseases (IMDs) or flares of underlying rheumatic diseases temporally associated with COVID-19 vaccination have been reported in the case series. It is again postulated that the distinct TLR-7, TLR-8 or TLR-9 agonism in a new COVID-19 vaccine is the common pathogenic mechanism in IMDs. Over 70% had at least one pre-existing rheumatic/autoimmune disease prior to the vaccination, such as rheumatoid arthritis, seronegative inflammatory arthritis, Bechet's disease, lupus erythematosus, other autoimmune connective tissue diseases and psoriasis (Fig. 1).[14] The flare or new onset can occur after the first dose, second dose or both with a median onset of four days after injection (1-25 days after the first dose, 1-7 days after the second dose). Other reported IMDs included pericarditis, demyelination and myasthenia gravis. The insurgence of these adverse events following vaccination could not be explained based on the drug received by the patients or other comorbidities. The majority (> 80%) of the cases had disease quickly settled with supportive or corticosteroid therapy.[13,14] Albeit the large population having received the vaccination, the IMDs flare or new occurrences associated with COVID-19 vaccinations are still considered to be rare.

Fig 1: A 59-year-old woman noted flare of psoriasis after 2nd dose of COVID vaccine (inactivated). There were psoriasiform plaques over her extensor aspect of both lower legs and trunk. The skin condition was controlled after biologics therapy. (Clinical photo from personal collection)

Relapse of autoimmune blistering diseases, such as pemphigus and bullous pemphigoid (BP), has been reported, with onset within three days to two weeks following vaccinations.[25-27] Besides, new onset of bullous pemphigoid after inactivated COVID-19 vaccine with the potential synergistic effect of dipeptidyl peptidase four inhibitors (DPP-4i) in type 2 diabetes mellitus (of latency more than one year after DPP-4i initiation) has also been reported.[25-26] The intense itch appeared soon after the first dose and new onset of classical bullous pemphigoid either between the first and second dose or after the second dose of the mRNA vaccine (Fig. 2a and 2b). Histology showed sub-epidermal blistering with eosinophil-rich infiltrates, and direct immunofluorescence showed linear C3 and

IgG deposits along the dermal-epidermal junction (DEJ). Indirect immunofluorescence revealed linear IgG positivity along the DEJ. On enzyme-linked immunosorbent assay (ELISA), most cases have elevated autoantibody titres for anti-BP 180 (65%) and/or anti-BP 230 (around 30%).[27] Patients responded to DPP-4i discontinuation, topical clobetasol dipropionate, either doxycycline, prednisolone or in combination with omalizumab or gamma globulin. It was postulated that in the synergistic role of the COVID-19 vaccine, dysregulated immune response following the COVID-19 vaccine might target hemidesmosomal components more easily on a DPP4-inhibited background. Of note, DPP4 is a cell-surface plasminogen receptor capable of converting plasminogen into plasmin, a serine protease, which in turn is capable of cleaving the BP180 ectodomain. Inhibition of the plasmin could hence provoke altered processing of BP180 with a breakdown in immune tolerance of the antigen. Nevertheless, the incidence of DPP-4i/vaccine-associated BP cases is rare when compared with the proportion of vaccinated elderly diabetic individuals on DPP-4i. The underlying individual predisposition unmasked by coincidental vaccination cannot be ruled out.

Furthermore, induction and flares of subacute cutaneous lupus erythematosus or conversion of discoid lupus erythematosus into systemic phenotypes have also been reported, with the onset of days to weeks after vaccinations.[14,22] However, without a large prospective systemic study, it is not possible to know how common would be the new onset or flare of pre-existing immune-mediated diseases; these findings might be coincidental.

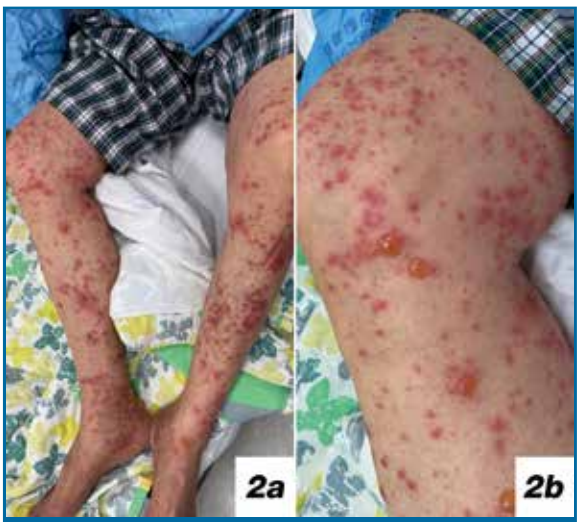

Fig 2a and 2b: A 51-year-old man presented with new onset of erythematous papules and plaques with intact clear-fluid filled bullae over bilateral lower legs and trunk. The onset was within four weeks after 2nd dose of COVID vaccine (mRNA). Skin biopsy confirmed subepidermal blisters with immunofluorescence stain IgG positive along dermoepidermal junction, which was compatible with bullous pemphigoid. He responded well after clobetasol propionate 0.05% cream and a tapering course of prednisolone. (Clinical photo from personal collection)

ANAPHYLAXIS AND CONTRAINDICATIONS TO COVID-19 VACCINES

Anaphylaxis is rare, with an incidence of 4.7 cases per million doses of the BNT162b2 vaccine 12 and generally is secondary to individual vaccine components, such as egg protein, gelatin and other additives. However, the exact mechanism of vaccine anaphylaxis after the COVID-19 vaccine is unknown, but polyethene glycol (PEG) is one potential allergen.[28] Patients typically present with generalised urticaria, angioedema, respiratory and airway obstruction symptoms. The onset is typically within minutes to hours after administration. Anaphylaxis requires prompt treatment with intramuscular adrenaline and oxygen therapy support as indicated. The BNT162b2 vaccine contains various excipients, including PEG, which is reported to cause anaphylaxis in some cases. Alternative vaccine such as CoronaVac containing no PEG can be considered for people with a history of PEG allergy. There is occasional cross-reactivity between PEG and polysorbate 80, which is present in other vaccines.

Contraindications for COVID-19 vaccines include prior history of anaphylactic or severe allergic reaction to previous COVID-19 vaccine and/or its components, including excipient, e.g. PEG, polysorbate. Adjuvants and other excipient components in the vaccine are generally responsible for allergic reactions. The majority of drug or vaccine-induced anaphylactic reactions occur within the first 30 minutes post-vaccination, but in case of immediate allergic reactions occurring within four hours of the first dose, the second dose shall be avoided. A review by a specialist with graded injection protocol in a fully equipped setting is suggested. Of note, severe cutaneous adverse reactions are very rare. The safety profiles of the COVID-19 vaccine are generally satisfactory. Most of the skin reactions post-vaccination are mild and self-limiting; therefore, revaccination shall not be discouraged. In case of severe cutaneous reactions post-vaccination, consideration of alternative vaccine injection and referral to a specialist are advised.

RECOMMENDATION AND GUIDELINES FOR VACCINATION IN A SPECIFIC GROUP

As for those with underlying dermatologic or autoimmune disorders, allergies and for those in immunosuppressive or biologic therapies, concerns of flares and insufficient immunisation exist. Recommendation and consensus of experts' opinions on COVID-19 vaccinations are formulated for daily practice reference.[30] In principle, for patients with immune-mediated dermatological disorder e.g atopic dermatitis, psoriasis and autoimmune disorders under control, COVID vaccination can be administered. There is no increased risk of allergic reactions, despite short-term aggregation of eczema and some inflammatory skin disorders being possible after vaccination but unlikely as vaccination response is skewed towards T helper cell-1 (Th-1) response. For patients receiving systemic therapy, vaccination is recommended at any time, but a temporary interruption for 1-2 weeks from vaccination

or reduced dosage is suggested with the lowest dose possible: 2.5mg/kg/day cyclosporine, 1mg/kg/day azathioprine and 7.5mg/week methotrexate. The risk of flare of AD or other inflammatory skin conditions may increase if systemic therapy is withheld or reduced for longer than three weeks. Vaccination is recommended between two injections of biologics within a one-week interval between vaccination and treatment. However, vaccination can be done at any time for patients on dupilumab or omalizumab, as there is no evidence of the immunosuppressive effects. Topical treatment can be continued. For patients with chronic urticaria, systemic antihistamines can be used prior to or during vaccination and do not impact the vaccination effect e.g. combined antihistamine H1 +/- H2 receptor antagonists. Observation for 30 minutes post-vaccination is advised. In case of anaphylaxis, the main acute treatment includes intramuscular epinephrine. For patients with a chronic immune-mediated skin disease on immunosuppressives or biologic therapies, +/- comorbidities such as cardiovascular disease or diabetes and obesity, COVID-19 vaccination is recommended due to the high risk of severe COVID-19 infection requiring hospitalisation. On a case-by-case approach, it is suggested to withhold immunosuppressants or biologics in case of COVID-19 infection till full recovery except for patients on a systemic corticosteroid, tapering to less than 20 mg/day of prednisolone or equivalent is suggested. For cases with autoimmune bullous diseases intended to put on rituximab (RTX), if RTX is not started, patients need to be vaccinated four weeks prior to RTX and advised to be vaccinated 12-20 weeks after completion of the treatment cycle.[29]

CONCLUSION

Most of the reported adverse cutaneous reactions are of mild-to-moderate severity and manageable. Clinicians should evaluate the benefit-to-risk ratio on a case-by-case basis. While vaccines may induce or aggravate autoinflammatory/dermatological diseases in susceptible individuals, it is essential to obtain a balance between disease control and immunosuppression to reduce the risks of severe COVID-19 infection.

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Infection-related Cutaneous Manifestations

Dr Man-ho CHUNG

MBBS (HK), MRCP (UK), FHKCP, FHKAM (Medicine)

Specialist in Rheumatology
Higher Physician Trainee in Dermatology and Venerology, Queen Mary Hospital

Dr Man-ho CHUNG

INTRODUCTION

Skin is a window to our bodies' health and well-being. Lots of diseases have their cutaneous presentations and often are the first symptoms noticed by patients. Cutaneous manifestations of infectious diseases occur through different mechanisms, ranging from a local lesion due to direct inoculation by the organism to a generalised immunological reaction to the invading organism. Three cases of infections caused by different organisms, each exhibiting their characteristic skin manifestations are presented. These cases highlight the importance of recognising cutaneous signs of infections, leading to correct investigations and managements.

CASE 1

A 63-year-old woman with good past health who worked in a fish market attended the emergency department for a persistent swelling over her right middle finger for one month. It was preceded by a small cut while handing seafood. She took two courses of antibiotics from a general practitioner yet without improvement (Fig. 1a and 1b). There were progressive erythematous nodules appearing ascendingly over the dorsum of the hand and then forearm two weeks after the initial injury. She had no fever or other constitutional symptoms. She was first admitted to the Orthopedics ward. X-ray of the hand showed no osteomyelitic changes. The initial white cell count was normal and C-reactive protein was not elevated. Bedside incision and drainage were performed and no pus was aspirated from the middle finger swelling. A skin biopsy was performed over the forearm nodule, which showed granulomatous inflammation, comprising coalescing nodules of epithelioid histiocytes. Acid fast bacilli was revealed on the Ziehl-Neelsen stain. Biopsy sample from the inoculation site grew *Mycobacterium marinum* after a month of culture. The diagnosis of *M. marinum* skin infection was made. Rifampicin and ethambutol combination treatment was started. During subsequent follow-up one month after discharge, the patient reported gradual resolution of the nodules after treatment.

Fig. 1a: Right middle finger swelling after incision and drainage. (Clinical photo from personal collection)

Fig. 1b: Nodules over forearm and dorsum of the hand. (Clinical photo from personal collection)

DISCUSSION

Mycobacterium marinum is a relatively common nontuberculous mycobacterial infection.[1] The cutaneous infection is also known as "fish tank granuloma", implying that the causative agent is usually found in aquatic environments, including fresh and salt water. Contaminated water in fish tanks at home or at fish markets can lead to infection through breaks in the skin.[2]

Cutaneous presentations include a crusted ulcer, suppurative abscess, or verrucous nodule. Sporotricoid lymphocutaneous infection can happen in 33% of cases as in our case.[1] *M. marinum* is the most common cause of sporotrichoid pattern among all non-tuberculous mycobacteriae. Other causes of sporotrichoid spread include deep fungal infection such

as sporotrichosis, bacterial infection such as nocardiosis and parasitic infection such as leishmaniasis. On the other hand, common bacterial skin infections with *Staphylococcus aureus* or *Streptococcus* pyogenes rarely result in sporotrichoid lymphocutaneous infection. Uncommonly, *M. marinum* can cause deeper infections leading to tenosynovitis, septic arthritis or osteomyelitis.[3]

The gold standard of diagnosis relies on tissue culture. However, due to the slow-growing nature of *M. marinum*, together with the non-specific initial presentation, delayed diagnosis up to several months is common.[4] Polymerase chain reaction (PCR) for atypical mycobacteriae may hasten the identification of the organism. Histology may show fibrinoid changes and caseating necrosis. Well-formed tuberculoid granulomas can occur. Identification of acid fast bacilli in histological examination has low sensitivity, however.[5]

The optimal treatment regimen for *M. marinum* is yet to be determined. Some reports suggested empirical treatment with clarithromycin for the immunocompetent host while waiting for the sensitivity result.[1] Combination treatment with clarithromycin plus ethambutol or ethambutol with rifampicin has reported good efficacy as well.[6] Other antibiotics groups that showed susceptibility include tetracyclines,[5] cotrimoxazole, moxifloxacin and linezolid.[3] Recommended treatment duration is 3 to 4 months in total.[6]

CASE 2

A 37-year-old woman with good past health presented to the emergency department with a generalised rash for two weeks. The rash began over the face as mildly itchy multiple discrete papulosquamous lesions (Fig. 2a). It then spread to the limbs, trunk and palms and soles with multiple discrete erythematous scaly papules and plaques (Fig. 2b and 2c). There was no mucosal involvement. No constitutional symptoms nor fever were reported. No nail change was noted and the scalp was clear. Further enquiry revealed unprotected sex with a regular partner over the past few months. She denied taking any over-the-counter medication. Blood tests showed normal eosinophil, neutrophil and lymphocyte count. Mild thrombocytosis with platelet count 650 x 109/L was noted. Anti-nuclear antibody was negative. C-reactive protein was raised up to 9.11 mg/dl. Histology of the skin biopsy over the right shin showed moderate perivascular lymphoplasmacytic and histiocytic infiltrate in the superficial to the mid dermis. Immunohistochemistry for Treponema pallidum did not reveal specific organisms. Subsequently, she was found to have a positive Venereal Disease Research Laboratory test (VDRL) at 1:128. Treponemal test fluorescent treponemal antibody absorption test (FTA-Abs) was also positive confirming the diagnosis of secondary syphilis. The human immunodeficiency virus (HIV) antibody was negative. With the positive VDRL result, the patient was subsequently referred to Social Hygiene Clinic for further screening and treatment of sexually transmitted diseases. Endocervical swab PCR was negative for chlamydia and gonorrhoea. The high vaginal swab was negative for trichomonas vaginalis. Three doses of weekly intramuscular penicillin G injection were given to the patient with serial VDRL titres to monitor for reinfection or treatment failure.

Fig. 2a: Facial psoriasiform eruption. (Clinical photo from personal collection)

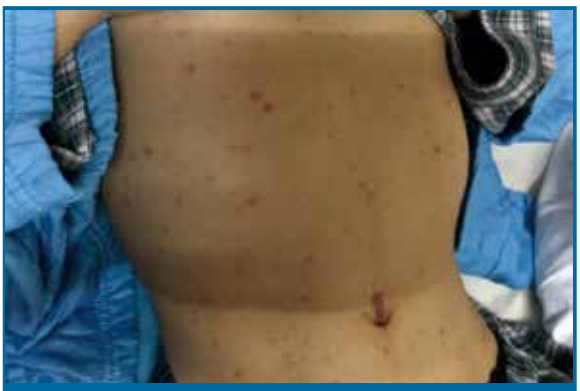

Fig. 2b: Scaly erythematous papules and plaques over trunk. (Clinical photo from personal collection)

Fig. 2c: Similar lesions over lower limbs. (Clinical photo from personal collection)

DISCUSSION

Syphilis is labelled as the great mimicker due to the broad spectrum of manifestations at the secondary and tertiary stages of the disease. In our patient, the differential diagnosis would include guttate psoriasis and pityriasis rosea. Without realising the possibility of secondary syphilis, sexual history may be ignored, and the diagnosis will be missed.

Syphilis is caused by the spirochaete *Treponema Pallidum*. It is divided into three clinical stages. Primary syphilis

presents with a painless genital ulcer called chancre around three weeks after infection.[7] Secondary syphilis results from the haematogenous and lymphatic spread of *Treponema pallidum*. Clinical features of secondary syphilis include mucocutaneous as well as systemic prodromal symptoms. It usually develops weeks to a few months after initial untreated infection. The most common presentation of secondary syphilis is a generalised non-pruritic papulosquamous eruption that also involves the palm and sole. Condyloma lata, patchy alopecia, hypopigmented macules are other possible presentations. Tertiary syphilis can present with cardiac or neurological disease or gummatous lesions. The patient may also be totally asymptomatic yet have positive syphilis serology, signifying latent infection.[8]

In order to make the diagnosis, at least one treponemal and one non-treponemal testing are required. Without utilising both serologic testing, false-negative results may be seen in primary syphilis cases and false-positive results in the patient without syphilis or previously treated syphilis.[9] VDRL and rapid plasma reagin (RPR) test are the two commonly used non-treponemal tests. Antibody titres of these tests may correlate with disease activity and thus can be used for post-treatment monitoring. False positivity can be seen in other infections such as HIV, autoimmune diseases, pregnancy and old age.[10] Treponemal tests include FTA-Abs, T. Pallidum particle agglutination test (TPPA) or various enzyme immunoassays. Most patients infected with syphilis will remain positive for the treponemal tests, regardless of treatment status or disease activity.

Penicillin G is still the most effective drug in treating syphilis. It is however important to identify features of neurosyphilis, ocular syphilis or otosyphilis in a patient infected with syphilis. They can occur at any stage of the disease. Treatment of this involvement will require an intravenous injection of aqueous crystalline penicillin G for 10-14 days. On the other hand, the usual regime consists of one or three weekly intramuscular injections of benzathine penicillin G, depending on the stage of syphilis.[9]

CASE 3

A 47-year-old woman was admitted for an acute onset of annular eruptions for three days. There were concentric annular patches with central blisters spreading from the buttock to the limbs and back (Fig. 3a and 3b). There were mild mucosal and lip erosions (Fig. c). She had monthly recurrence of herpes genitalia over the same site at the buttock and was being followed up in Social Hygiene Clinic (Fig 3d). However, she never had these annular lesions with such widespread distribution. She had an unremarkable complete blood count with a normal eosinophil count. She was not on regular medications, and she had not taken any over-the-counter medication or traditional Chinese medicine. PCR testing of buttock lesional swab confirmed the presence of herpes simplex virus-2 (HSV-2) DNA. An oral swab taken over the erosion for viral culture was negative for HSV. The diagnosis of erythema multiforme triggered by HSV-2 infection was made. The patient was given a course of valacyclovir for HSV. Targetoid lesions all resolved within two weeks after discharge. Patient refused regular suppressive therapy with an antiviral drug and there has been no recurrence of erythema multiforme so far despite the ongoing recurrence of genital herpes.

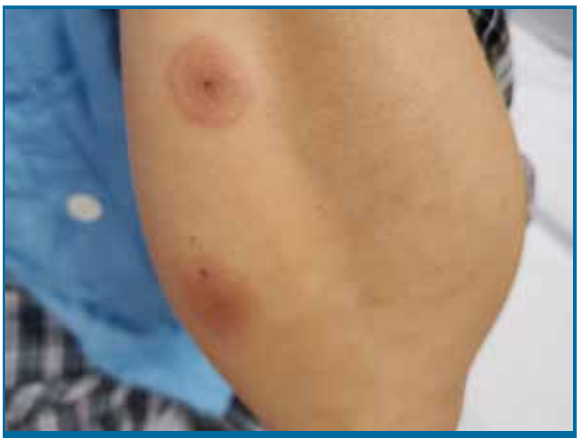

Fig. 3a: argetoid lesions of erythema multiforme (EM) on forearm. (Clinical photo from personal collection)

Fig. 3b: Targetoid lesions on right lower limb. (Clinical photo from personal collection)

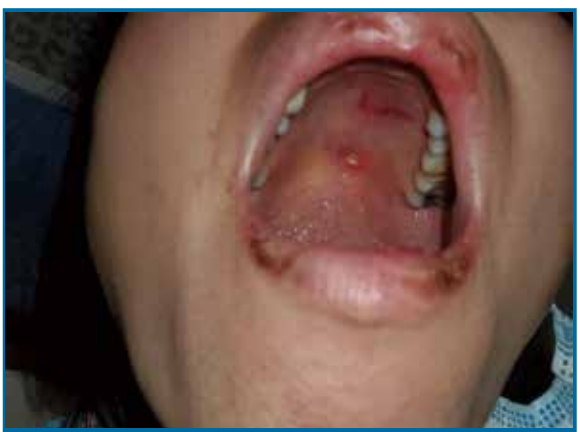

Fig 3c: Mucosal and lip erosions of EM. (Clinical photo from personal collection)

Fig 3d: Vesicles in crops on right sacral area with adjacent EM lesions. (Clinical photo from personal collection)

DISCUSSION

Erythema multiforme (EM) is a mucocutaneous immune reaction to, commonly, an underlying infection. Herpes simplex virus (HSV) and *Mycoplasma pneumoniae* infection are the two important precipitating causes. Other less common triggering infections include histoplasmosis, *Mycobacterium tuberculosis*, Ebstein-Barr virus. There are also reports of erythema multiforme following Coronavirus Disease 2019 (COVID-19) infection.[11] Both HSV-1 and HSV-2 can lead to the development of EM.[12] Antigenic differences may explain why EM is more commonly associated with HSV1 than HSV2.[13] Importantly, EM should be distinguished from Stevens-Johnson syndrome, which is now believed to be a different entity with different presentations and aetiologies.[14]

Studies have shown that HSV DNA fragments are transported by Langerhans cell precursor to the skin lesions, triggering off T cell-mediated immune responses, leading to the typical cutaneous presentation.[15] Typical targetoid lesions consist of concentric rings with a central blister, outer paler ring and an outermost erythematous rim. They are commonly distributed over the extensor surfaces of the limbs. Lesions usually appear over 3-5 days. Most patient heals within two weeks. Oral mucosal involvement can occur up to 70% of EM.[14]

Blood tests were non-specific in EM. The aim of investigations is to look for underlying infections including HSV and mycoplasma. The swab should be taken over the suspicious area for HSV culture and PCR if available. Skin biopsy will show necrotic keratinocytes, basal cell vacuolar degeneration and superficial perivascular lymphohistiocytic infiltrate.[14] When compared to Stevens-Johnson syndrome, there is more dermal inflammation component and will not have large area of full-thickness epidermal necrosis.

In a review published in 2019, only one randomised controlled trial was done to investigate the treatment of erythema multiforme.[16] The goal of treatment in acute EM should be symptomatic relief and specific treatment will depend on the underlying trigger. Anti-viral treatment in the acute setting may not alter the clinical course of illness for HSV-related EM. Antibiotics would be needed for mycoplasma- related EM. Options for symptomatic relief include topical steroids and anti-histamine for mild disease. For severe mucosal disease, the use of systemic corticosteroid over 2-4 weeks may be necessary. Inpatient care with intravenous fluids and electrolytes repletion may also be needed. Other agents that have been reported to be effective in case series and case reports for refractory cases include apremilast, azathioprine, thalidomide, rituximab and other immunosuppressants.[11]

CONCLUSION

Infectious organisms can present themselves through different pathogenic mechanisms. Direct inoculation of the infectious organism will result in the localised lesion, however subsequent spread through lymphatic and haematological routes can cause widespread lesions as demonstrated by the case of secondary syphilis and *M. marinum* infection. The immunological reaction towards the infectious organism is another common reason for the cutaneous manifestations. Besides the EM case demonstrated here, another example is erythema nodosum or erythema induratum as an immunological phenomenon related to tuberculosis.

For these three cases that we encountered during inpatient dermatology consultation, they all presented with cutaneous lesions as the chief complaint. Prompt recognition of the underlying infectious aetiology can prevent further deterioration and complications.

It is important for all clinicians to recognise cutaneous signs of infectious diseases to allow timely treatment for the patients.

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Leisure Reading For The Busy Medical Practitioner

Dr Sze-kee LEUNG

MBBS(HK), FRCP, FHKCP, FHKAM (Med)

Specialist in Dermatology & Venereology
Immediate Past President, the Hong Kong College of Dermatologists

Dr Sze-kee LEUNG

In my opinion, there are always a certain number of books peculiar to each profession which should be read by all its members - regardless of their positions, professional standings, competence or academic achievements. These books should be succinct, easy to understand, humorous and not pompous. Amusing anecdotes should give the readers a knowing smile. Here are a few that I think every doctor would appreciate and enjoy. You do not need to read them through in one session. They are all divided into short sections which may be picked up any time later if you cannot finish.

"TALKING SENSE ABOUT MEDICINE: LIFE LESSONS FOR DOCTORS AND THOSE WHO VISIT THEM" by Richard ASHER

More than two decades ago, I came across this delightful book which impressed me so much that I bought another copy and donated it to the McFadzean Library. This library was set up in the 1970s by the late Prof. Sir David Todd within the University Department of Medicine in Queen Mary Hospital in memory of his mentor, Prof AJS McFadzean. Dr Richard Asher was an eminent endocrinologist and haematologist and later put in charge of the Central Middlesex Hospital's psychiatric department. He did not like to be labelled as either of the titles and certainly not a psychiatrist and was vehemently against 'OVER-SPECIALISATION' - one of the "seven sins of medicine" he depicted. He mentioned the well-known jibe that specialisation implies "knowing more and more about less and less"! This sentiment was certainly shared by none other than Sir David Todd who never wanted to be referred to as a specialist in haematology but as a 'general physician with a special interest in haematology'.

Another 'sin' he named was 'CRUELTY' - both mental and physical. For mental cruelty, Asher gave an example which I am sure every doctor in Hong Kong would have encountered. A patient with shingles (herpes zoster) has nearly always been told by his/her grandmother or some elderly relatives/friends that "if they meet (in Hong Kong, of course, they would say 'if the snake's head and tail meet') in the middle you die", the doctor's assurance that neither will they meet nor will he/she die may give the patient much relief.

The author coined two medical conditions which were previously not recognised - Munchausen Syndrome and Myxoedema Madness. The former is a psychological disorder in which someone pretends to be ill or deliberately produces symptoms of illness. The latter is a serious and complicated psychosis due to significant hypothyroidism and thus totally treatable if diagnosed early enough. In fact, Asher suggested that all young in-patients of psychiatric hospitals should be screened for thyroid function. I do not know if this was ever implemented. But the routine thyroid function test on all newborns since the 1980s had virtually eradicated congenital hypothyroidism (cretinism) in the developed world including Hong Kong.

For those familiar with the British Pop Music scene in the 1960s, you might be interested to know that the accomplished English actress, Jane Asher, with whom Paul McCartney was once engaged, is the daughter of Richard Asher. Peter Asher, his son, is one half of the "Peter and Gordon" pop duo.

This book is available from Amazon both in a Kindle e-book format and paperback.

"PYKE'S NOTES: DAVID PYKE, REGISTRAR OF THE ROYAL COLLEGE OF PHYSICIANS, 1975-1992" by Dr. David Alan PYKE

Dr David Alan Pyke was a respected endocrinologist whose most renowned work was the study of type 2 diabetes in identical twins. From 1975 to 1992 he served as the Registrar of the Royal College of Physicians of London. He was responsible to keep track of all activities of the various committees and being an ex-officio member of most of them he was in the best position to have in-depth knowledge of the many strengths and foibles of some (if not all) of the most famous and influential physicians of England at that time. He has a regular column in the quarterly College Commentary and his comments were eagerly awaited by Members and Fellows. Some believed that his "Notes" were the first, often the only, part of the Commentary read. I had not missed a single publication of this series since I first started the subscription in 1979. After he retired from the post the College decided to assemble a collection of his notes to be published as "Pyke's Notes".

I will give you two examples of David Pyke's wit and wise selection of topics. In the mid-1970s, the MRCP examination was re-organised and some controversies arose. In the heat of all those arguments, he told us a real-life story about himself taking the clinical

Part II examination in 1949. He was given a difficult neurological case and his only hope of passing was that the examiner, whom he did not recognise at the time, knew as little neurology as he did. In those days, the result would not be available for a couple of weeks. During that time he met the examiner in the library of the Royal Society of Medicine. He asked one of his friends who that was. 'Oh, that? That's Russell Brain.' (For the uninitiated, Russell Brain – later Lord Brain – was the greatest British neurologist of the 20th Century!) David Pyke never revealed whether he passed that time. I suspect he did, since in a later interview in the 1990s, he said he obtained his MRCP in 1949.

In another instance, there was a meeting at the College for its members/fellows and lawyers from the Medical Defence/Protection Societies to exchange views and suggestions. During the dinner that followed, one physician asked the lawyer who was seated next to him a personal question: 'On numerous social occasions I had to answer queries and give expert opinion(s) to friends and relatives regarding medicine. These people never visited my clinic. What should I do to stop them from getting free advice?' In a heartbeat, his legal colleague answered: 'Elementary, my dear doctor. Send them the bill for consultation and advice the next morning.' The physician fellow felt very relieved and grateful for a sound and effective recommendation. And, sure enough, he got a bill from the lawyer the very next day! With these two extracts I rest my case.

Paperback is available from Amazon or RCP, London website.

"FROM SCALPEL TO SPADE: A SURGEON'S JOURNEY TO ITHACA" by Arthur van LANGENGERG

Last but not least is much closer to home. Dr Langenberg is a Macanese who graduated from the Medical Faculty of the University of Hong Kong. Before I read this book I always thought that his very European last name is that of his adopted father. How wrong I was! You will find out more about this small community in the early part of this anthology. His description of his days at HKU as a medical student and lecturer (later senior lecturer) brought back many fond memories. His account of how he inadvertently brought the examination answer papers together with him when he left Loke Yew Hall where the Physiology MB Exam. was held is really amazing.

Everyone who is a graduate of HKU or has worked in Queen Mary Hospital in the 1960s and early 1970s would remember this true gentleman. His famous definitions of a competent and a good surgeon are still true today – a competent surgeon knows when to operate and a good one knows when NOT to operate. His impeccable bedside manners are legendary. A friend of mine whom I referred to consult Dr Langenberg thanked me profusely for introducing her to such a "good-mannered and caring" doctor. What a contrast to what Prof Rosie Young referred to at a recent TV interview (March 2022) in which she talked about an honorary consultant ophthalmologist slapping an irritating and difficult patient in front of a class of medical students (including the then Ms Young) while teaching in an outpatient clinic!

The institutional politics and working environment drove Arthur to the private sector in 1974. Apart from his busy practice, he found time to pursue his hobby of urban gardening (which later turned out to be his passion). He was so good at it that he wrote a few books and is now quite an authority.

The subtitle of the book, a figure of speech likening his personal and professional life to the Greek God Odysseus' journey home after the Trojan War, is most apt. I consider this book a 'must-read' for all Hong Kong doctors.

Available in most Hong Kong bookstores and HKTV Mall. A Kindle Ebook will be on Amazon later this year.

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		★In-person / Zoom HKMA-HKSH CME Programme 2022-2023 (Physical Lecture + Online) Topic: Sleep Apnoea & Retinal Vascular Occlusion ★Short Course on Clinical Toxicology (Video Lectures) **1**	★Difficult Communications in Healthcare 2022 (Video Lectures) **2**	★In-person / Zoom HKMA-HKSTP CME Lecture - Era of Minimal Invasive Surgery in Cardiology (Physical Lecture + Online) ★Certificate Course in Cardiology (Video Lectures) **3**	★Zoom Understanding Common Eye Diseases from Patient's Perspective - Online **4**	**5**
6	**7**	★Short Course on Clinical Toxicology (Video Lectures) **8**	★The Hong Kong Neurosurgical Society Monthly Academic Meeting - To be confirmed ★Zoom Managing Hypertension through Cardiovascular Diseases Perspective - Online ★Difficult Communications in Healthcare 2022 (Video Lectures) **9**	★Certificate Course in Cardiology (Video Lectures) **10**	★Zoom Rotavirus Vaccination - Real Encounter with Patients - Online **11**	★30th Annual Scientific Meeting of Hong Kong College of Radiologists (Virtual Meeting) **12**
★30th Annual Scientific Meeting of Hong Kong College of Radiologists (Virtual Meeting) **13**	**14**	★Zoom The New Trend Towards AF Management – Online ★Short Course on Clinical Toxicology (Video Lectures) **15**	★Zoom HKMA-HKSTP CME Lecture - Current Landscape Of Treatment-Directed Molecular Testing In Cancer (Online) ★Difficult Communications in Healthcare 2022 (Video Lectures) **16**	★Zoom Update in Management of Patients with Endometrial Carcinoma – Online ★Certificate Course in Cardiology (Video Lectures) **17**	**18**	**19**
20	**21**	★Zoom Current Perspectives On The Management Of Allergic Rhinitis - Online ★Cert Course on Mental Health 2022 (Video Lectures) **22**	★Zoom Local Consensus by Hong Kong Geriatrics Society and Hong Kong Urological Association on management of male patients with LUTS - Online ★Difficult Communications in Healthcare 2022 (Video Lectures) **23**	★Zoom Certificate Course for GPs 2022 - Updates on Management of Menopause - Online ★FMSHK Executive Committee Meeting ★FMSHK Council Meeting ★FMSHK Annual General Meeting ★HKFSM Foundation Annual General Meeting ★Zoom Hemorrhoidal Crisis - How Can be Treated and Avoided? - Online **24**	**25**	**26**
★HKCD & HKSPD Joint Annual Scientific Meeting 2022 (Webcast) **27**	**28**	★Zoom Optimizing Asthma Management with Preventive Approach - Online ★Cert Course on Mental Health 2022 (Video Lectures) **29**	★Zoom Bridge the Gap: Addressing Unmet Need in Atopic Dermatitis - Online **30**			

Date / Time	Function	Enquiry / Remarks
1 TUE 2:00 PM	**In-person / Zoom** **HKMA-HKSH CME Programme 2022-2023 (Physical Lecture + Online)** **Topic: Sleep Apnoea & Retinal Vascular Occlusion** Organiser: Hong Kong Medical Association and Hong Kong Sanatorium & Hospital Speaker: Dr Siu-ping HUI Venue: HKMA Dr Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	HKMA CME Dept. Tel: 3108 2507 1 CME Point
7:00 PM	**Short Course on Clinical Toxicology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr CHAN Chi-keung	Ms Vienna LAM Tel: 2527 8898
2 WED 7:00 PM	**Difficult Communications in Healthcare 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Lugwig CHOI	Ms Vienna LAM Tel: 2527 8898
3 THU 2:00 PM	**In-person / Zoom** **HKMA-HKSTP CME Lecture - Era of Minimal Invasive Surgery in Cardiology (Physical Lecture + Online)** Organiser: Hong Kong Medical Association and Hong Kong Science Park Speaker: Dr Vincent LUK Ngai-hong Venue: HKMA Dr. Li Shu Pui Professional Education Centre, 2/F, Chinese Club Building, 21-22 Connaught Road, Central, Hong Kong	Mr Jeff CHENG Tel: 2527 8285 1 CME Point
7:00 PM	**Certificate Course in Cardiology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Jason KO Kwun-chun	Ms Vienna LAM Tel: 2527 8898
4 FRI 2:00 PM	**Zoom** **Understanding Common Eye Diseases from Patient's Perspective - Online** Organiser: HKMA-Shatin Community Network Speaker: Dr Byron CHU Tung-hang	Ms Candice TONG Tel: 2527 8285 1 CME Point
8 TUE 7:00 PM	**Short Course on Clinical Toxicology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr CHOWTin-yat	Ms Vienna LAM Tel: 2527 8898
9 WED 7:30 AM	**The Hong Kong Neurosurgical Society Monthly Academic Meeting - To be confirmed** Organiser: Hong Kong Neurosurgical Society Speaker: Dr Ho Yan-wa	Dr Calvin MAK Tel: 2595 6456 1.5 CME Points
2:00 PM	**Zoom** **Managing Hypertension through Cardiovascular Diseases Perspective - Online** Organiser: HKMA-Central, Western & Southern Community Network Speaker: Dr FU Chiu-lai	Ms Candice TONG Tel: 2527 8285 1 CME Point
7:00 PM	**Difficult Communications in Healthcare 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Robert LAW	Ms Vienna LAM Tel: 2527 8898
10 THU 7:00 PM	**Certificate Course in Cardiology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr CHOW Hoi-fan & Dr David LO ka-yip	Ms Vienna LAM Tel: 2527 8898
11 FRI 2:00 PM	**Zoom** **Rotavirus Vaccination – Real Encounter with Patients - Online** Organiser: HKMA-KLN City Community Network Speaker: Dr Robery LOUNG Po-yee	Ms Candice TONG Tel: 2527 8285 1 CME Point
12 SAT 8:00 AM *(13)*	**30th Annual Scientific Meeting of Hong Kong College of Radiologists (Virtual Meeting)** Organiser: Hong Kong College of Radiologists	Ms Karen Law Tel: 2871 8788
15 TUE 2:00 PM	**Zoom** **The New Trend Towards AF Management – Online** Organiser: HKMA-KLN West Community Network Speaker: Dr CHANYat-sun	Ms Candice TONG Tel: 2527 8285 1 CME Point
7:00 PM	**Short Course on Clinical Toxicology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr WONG Oi-fung	Ms Vienna LAM Tel: 2527 8898
16 WED 2:00 PM	**Zoom** **HKMA-HKSTP CME Lecture - Current Landscape Of Treatment - Directed Molecular Testing In Cancer (Online)** Organiser: Hong Kong Medical Association and Hong Kong Science Park Speaker: Dr Kirsty LEE Wai-chung	HKMA CME Dept Tel: 3108 2507 1 CME Point
7:00 PM	**Difficult Communications in Healthcare 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Sandy CHAN	Ms Vienna LAM Tel: 2527 8898
17 THU 2:00 PM	**Zoom** **Update in Management of Patients with Endometrial Carcinoma - Online** Organiser: HKMA-New Territories West Community Network Speaker: Dr LEE Lee	Ms Candice TONG Tel: 2527 8285 1 CME Point
7:00 PM	**Certificate Course in Cardiology (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr KWOK Sit-yee	Ms Vienna LAM Tel: 2527 8898
22 TUE 2:00 PM	**Zoom** **Current Perspectives On The Management Of Allergic Rhinitis - Online** Organiser: Hong Kong Medical Association Speaker: Dr CHAN Hing-sang	Mr Jeff CHENG 2527 8285 1 CME Point

Date / Time	Function	Enquiry / Remarks
22 TUE 7:00 PM	**Cert Course on Mental Health 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Jessica OY WONG	Ms Vienna LAM Tel: 2527 8898
23 WED 2:00 PM	**Zoom** **Local Consensus by Hong Kong Geriatrics Society and Hong Kong Urological Association on management of male patients with LUTS - Online** Organiser: Hong Kong Medical Association Speaker: Dr William WONG Kwok-keung	Mr Jeff CHENG Tel: 2527 8285 1 CME Point
7:00 PM	**Difficult Communications in Healthcare 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr CHOO Kah-lin	Ms Vienna LAM Tel: 2527 8898
24 THU 2:00 PM	**Zoom** **Certificate Course for GPs 2022 - Updates on Management of Menopause - Online** Organiser: HKMA-KLN East Community Network, HA-United Christian Hospital and HK College of Family Physicians Speaker: Dr Cathy PUT Wing-man	Ms Judy Yu Tel: 3949 3043 1 CME Point
2:00 PM	**Zoom** **Hemorrhoidal Crisis - How Can be Treated and Avoided? – Online** Organiser: HKMA-HK East Community Network Speaker: Dr Nga-king CHIU	Ms Candice TONG Tel: 2527 8285 1 CME Point
7:00 PM	**FMSHK Executive Committee Meeting** Organiser: The Federation of Medical Societies of Hong Kong Venue: Council Chamber, 4/F,Duke Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms Nancy CHAN Tel: 2527 8898
7:30 PM	**FMSHK Council Meeting** Organiser: The Federation of Medical Societies of Hong Kong Venue: Council Chamber, 4/F,Duke Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms Nancy CHAN Tel: 2527 8898
8:00 PM	**FMSHK Annual General Meeting** Organiser: The Federation of Medical Societies of Hong Kong Venue: Council Chamber, 4/F,Duke Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms Nancy CHAN Tel: 2527 8898
8:30 PM	**HKFSM Foundation Annual General Meeting** Organiser: The Federation of Medical Societies of Hong Kong Venue: Council Chamber, 4/F,Duke Windsor Social Service Building, 15 Hennessy Road, Wanchai, Hong Kong	Ms Nancy CHAN Tel: 2527 8898
27 SUN	**HKCD & HKSPD Joint Annual Scientific Meeting 2022 (Webcast)** Organiser: Hong Kong College of Dermatologists and The Hong Kong Society for Paediatric Dermatology	Ms Mandy Choi Tel: 2155 8557 CME: TBA
29 TUE 2:00 PM	**Zoom** **Optimizing Asthma Management with Preventive Approach - Online** Organiser: HKMA-YTM Community Network Speaker: Dr Angus LO Ho-yin	Ms Candice TONG Tel: 2527 8285 1 CME Point
7:00 PM	**Cert Course on Mental Health 2022 (Video Lectures)** Organiser: The Federation of Medical Societies of Hong Kong Speaker: Dr Pey-chyou PAN	Ms Vienna LAM Tel: 2527 8898
30 WED 2:00 PM	**Zoom** **Bridge the Gap: Addressing Unmet Need in Atopic Dermatitis - Online** Organiser: Hong Kong Medical Association Speaker: Dr Steven LOO King-fan	Mr Jeff CHENG Tel: 2527 8285 1 CME Point

Answers to Dermatology Quiz

Answers:

1. MDA5 dermatomyositis. It usually presents with clinically amyopathic dermatomyositis with vasculitic ulcers and rapidly progressive interstitial lung diseases.

2. Check myositis specific antoantibodies. Anti-MDA5 antibody positivity confirms the diagnosis. Muscle biopsy is not required.

3. Rapidly progressive interstitial lung disease. HRCT and a lung function test will be helpful for the diagnosis.

4. Early use of IV methylprednisolone is key to successful treatment. Sequential use of cyclophosphamide, rituximab and calcineurin inhibitors may be possible treatment options too. Plasmapheresis could be tried in refractory cases with inconsistent results.

5. 50%.

Dr Victor TL WONG
MBChB (HK), MRCP (UK), FHKCP, FHKAM (Medicine)

ACHIEVE LASTING CHANGE

DUPIXENT is the first-line systemic choice for achieving lasting change in patients as young as 6 years old with atopic dermatitis (AD)*

RAPID AND SUSTAINED CONTROL – CONSISTENT ACROSS ALL AGES

- Sustained improvement of itch, skin clearance, and QoL up to 52 weeks, with rapid control after first dose[1–16]

UNIQUE LONG-TERM SAFETY PROFILE

Only AD therapy:

- With 4-year long-term safety data in adults[17]
- Approved in patients as young as 6 years old[1]

START WITH EASE, STAY WITH CONFIDENCE

- DUPIXENT is not an immunosuppressant[1]
- 85% patient satisfaction with DUPIXENT treatment at 1 year[18**]

~340,000 AD PATIENTS TREATED WITH DUPIXENT WORLDWIDE[19]

*DUPIXENT is indicated to treat adults and adolescents ≥12 years with moderate-to-severe atopic dermatitis, and children aged 6 to 11 years with severe atopic dermatitis who are candidates for systemic therapy[1]

AD, atopic dermatitis; QoL, quality of life.

**adult population only

References: 1. DUPIXENT Summary of Product Characteristics. 2022. **2.** Blauvelt A et al. *Lancet* 2017; 389:2287–2303. **3.** Data on file (AD-1224 CSR). Sanofi and Regeneron Pharmaceuticals, Inc. 2016. **4.** Blauvelt A et al. *Lancet* 2017; 389:2287–2303. [suppl.]. **5.** Data on file (AD-1224 CSR DLQI rate). Sanofi and Regeneron Pharmaceuticals, Inc. 2021. **6.** Data on file (AD-1652 CSR EASI). Sanofi and Regeneron Pharmaceuticals, Inc. 2019. **7.** Data on file (AD-1652 CSR CDLQI rate). Sanofi and Regeneron Pharmaceuticals, Inc. 2019. **8.** Paller AS et al. *J Am Acad Dermatol* 2020; 83(5):1282–1293. **9.** Cork MJ et al. Poster presented at the Revolutionizing Atopic Dermatitis Conference; 2021; June 13; Virtual Conference. Poster 468. **10.** Data on file (AD-1652 CSR pruritus NRS). Sanofi and Regeneron Pharmaceuticals, Inc. 2019. **11.** Simpson EL et al. *JAMA Dermatol* 2020; 156(1):44–56. **12.** Data on file (AD-1526 CSR EASI). Sanofi and Regeneron Pharmaceuticals, Inc. 2019. **13.** Paller AS et al. *Am J Clin Dermatol* 2020; 21:119–131. **14.** Data on file (AD-1539 EASI). Sanofi and Regeneron Pharmaceuticals, Inc. 2022. **15.** Data on file (AD-1539 pruritus NRS). Sanofi and Regeneron Pharmaceuticals, Inc. 2022. **16.** Data on file (AD-1539 CDLQI). Sanofi and Regeneron Pharmaceuticals, Inc. 2022. **17.** Beck L et al. *Am J Clin Derm* 2022; May;23(3):393–408. **18.** Strober B et al. *JAMA Dermatol* 2022;158(2):142–150. **19.** Data on file (Patient numbers, May 2022). Sanofi and Regeneron Pharmaceuticals, Inc. 2022.

Presentation: Dupilumab solution for injection in a pre-filled syringe with needle shield. **Indications:** *Atopic Dermatitis (AD):* Moderate-to-severe AD in adults and adolescents ≥12 years who are candidates for systemic therapy; severe atopic dermatitis in children 6 to 11 years old who are candidates for systemic therapy. *Asthma:* In adults and adolescents ≥12 years as add-on maintenance treatment for severe asthma with type 2 inflammation characterised by raised blood eosinophils and/or raised FeNO, who are inadequately controlled with high dose ICS plus another medicinal product for maintenance treatment. *Chronic rhinosinusitis with nasal polyposis (CRSwNP):* As an add-on therapy with intranasal corticosteroids for the treatment of adults with severe CRSwNP for whom therapy with systemic corticosteroids and/or surgery do not provide adequate disease control (for 300 mg) **Dosage & Administration:** Subcutaneous injection. *AD adults:* Initial dose of 600 mg (two 300 mg injections), followed by 300 mg every other week. *AD adolescents (12-17 y/o):* Body weight <60 kg - initial dose of 400 mg (two 200 mg injections), followed by 200 mg every other week. Body weight ≥60 kg - same dosage as adults. Dupilumab can be used with or without topical corticosteroids. Topical calcineurin inhibitors may be used, but should be reserved for problem areas only, e.g. face, neck, intertriginous and genital areas. Consider discontinuing treatment in patients who have shown no response after 16 weeks. *AD Children (6-11 y/o):* Body weight 15 kg – <60 kg - initial dose of 300 mg on Day 1 follow by 300 mg on Day 15, then 300 mg every 4 weeks. Bodyweight ≥60 kg - same dosage as adults. *The dose may be increased to 200 mg Q2W in patients with body weight of 15 kg – <60 kg based on physician's assessment. *Asthma:* Initial dose of 400 mg, followed by 200 mg every other week. For patients with severe asthma and on oral corticosteroids or with severe asthma and co-morbid moderate-to-severe AD or adults with co-morbid severe CRSwNP- initial dose of 600 mg, followed by 300 mg every other week. Patients receiving concomitant oral corticosteroids may reduce steroid dose gradually once clinical improvement with dupilumab has occurred. The need for continued dupilumab therapy should be considered at least annually as determined by a physician. If a dose is missed, administer it asap and thereafter, resume dosing at the regular scheduled time. **Contraindications:** Hypersensitivity to dupilumab or any of the excipients. **Precautions:** Safety and efficacy in children <6 years or <15 kg not been established. Not be used to treat acute asthma symptoms, acute exacerbations, acute bronchospasm or status asthmaticus. Do not discontinue corticosteroids abruptly upon start of dupilumab. Reduction should be gradual and performed under supervision of a physician; it may be associated with systemic withdrawal symptoms and/or unmask conditions previously suppressed by systemic corticosteroid therapy. Biomarkers of type 2 inflammation may be suppressed by systemic corticosteroid use. If systemic hypersensitivity reaction occurs, discontinue dupilumab and initiate appropriate therapy. Be alert to vasculitic rash, worsening pulmonary symptoms, cardiac complications, and/or neuropathy presenting in patients with eosinophilia. Treat pre-existing helminth infections before initiating dupilumab. If patients become infected while receiving dupilumab and do not respond to anti-helminth treatment, discontinue dupilumab until infection resolves. Patients who develop conjunctivitis and keratitis that does not resolve following standard treatment should undergo ophthalmological examination. AD patients with comorbid asthma should not adjust or stop asthma treatments without consultation with physicians. Carefully monitor patients after discontinuation of dupilumab. Do not give live and live attenuated vaccines concurrently with dupilumab. Patients should be brought up to date with immunisations before starting dupilumab. **Drug Interactions:** Immune responses to TdaP vaccine and meningococcal polysaccharide vaccine were assessed. Patients receiving dupilumab may receive concurrent inactivated or non-live vaccinations. **Pregnancy and lactation:** Should be used during pregnancy only if potential benefit justifies potential risk to foetus. Unknown whether dupilumab is excreted in human milk or absorbed systemically after ingestion. Decision must be made whether to discontinue breast-feeding or dupilumab taking into account benefit of breast feeding for the child and benefit of therapy for the woman. **Undesirable effects:** Most common adverse reactions reported- injection site reactions, conjunctivitis, oral herpes and eosinophilia. Safety profile observed in adolescents consistent with that seen in adults. *For other undesirable effects, please refer to the full prescribing information.* **Preparation**: 2 x 300 mg/2 ml in pre-filled syringe with needle shield, 2 x 200 mg/1.14 ml in pre-filled syringe with needle shield. **Legal Classification:** Part 1, First & Third Schedules Poison ***Full prescribing information is available upon request.*** API-HK-DUP-22.06

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DUPIXENT® (dupilumab)
CONTINUOUS CONTROL

JAN | 一月

S	M	T	W	T	F	S
1 初十	2 十一	3 十二	4 十三	5 小寒	6 十五	7 十六
8 十七	9 十八	10 十九	11 二十	12 廿一	13 廿二	14 廿三
15 廿四	16 廿五	17 廿六	18 廿七	19 廿八	20 大寒	21 三十
22 正月	23 初二	24 初三	25 初四	26 初五	27 初六	28 初七
29 初八	30 初九	31 初十				

▲元旦 New Year
農曆新年 Lunar New Year

元旦 New Year
農曆新年 Lunar New Year

FEB | 二月

S	M	T	W	T	F	S
			1 十一	2 十二	3 十三	4 立春
5 十五	6 十六	7 十七	8 十八	9 十九	10 二十	11 廿一
12 廿二	13 廿三	14 廿四	15 廿五	16 廿六	17 廿七	18 廿八
19 雨水	20 二月	21 初二	22 初三	23 初四	24 初五	25 初六
26 初七	27 初八	28 初九				

MAR | 三月

S	M	T	W	T	F	S
			1 初十	2 十一	3 十二	4 十三
5 十四	6 驚蟄	7 十六	8 十七	9 十八	10 十九	11 二十
12 廿一	13 廿二	14 廿三	15 廿四	16 廿五	17 廿六	18 廿七
19 廿八	20 廿九	21 春分	22 閏二月	23 初二	24 初三	25 初四
26 初五	27 初六	28 初七	29 初八	30 初九	31 初十	

APR | 四月

S	M	T	W	T	F	S
						1 十一
2 十二	3 十三	4 十四	5 清明	6 十六	7 十七	8 十八
9 十九	10 二十	11 廿一	12 廿二	13 廿三	14 廿四	15 廿五
16 廿六	17 廿七	18 廿八	19 廿九	20 穀雨	21 初二	22 初三
23 初四	24 初五	25 初六	26 初七	27 初八	28 初九	29 初十
30 十一						

▲清明節 Ching Ming Festival
耶穌受難節 Good Friday
復活節 Easter

清明節 Ching Ming Festival
耶穌受難日 Good Friday
復活節 Easter

MAY | 五月

S	M	T	W	T	F	S
	1 十二	2 十三	3 十四	4 十五	5 十六	6 立夏
7 十八	8 十九	9 二十	10 廿一	11 廿二	12 廿三	13 廿四
14 廿五	15 廿六	16 廿七	17 廿八	18 廿九	19 四月	20 初二
21 小滿	22 初四	23 初五	24 初六	25 初七	26 初八	27 初九
28 初十	29 十一	30 十二	31 十三			

▲勞動節Labour Day
佛誕 The Birthday of the Buddha

勞動節Labour Day
佛誕節 Buddha's Birthday

JUN | 六月

S	M	T	W	T	F	S
				1 十四	2 十五	3 十六
4 十七	5 十八	6 芒種	7 二十	8 廿一	9 廿二	10 廿三
11 廿四	12 廿五	13 廿六	14 廿七	15 廿八	16 廿九	17 三十
18 五月	19 初二	20 初三	21 夏至	22 初五	23 初六	24 初七
25 初八	26 初九	27 初十	28 十一	29 十二	30 十三	

▲ 端午節 Tuen Ng Festival

端午節 Tuen Ng Festival

JUL | 七月

S	M	T	W	T	F	S
						1 十四
2 十五	3 十六	4 十七	5 十八	6 十九	7 小暑	8 廿一
9 廿二	10 廿三	11 廿四	12 廿五	13 廿六	14 廿七	15 廿八
16 廿九	17 三十	18 六月	19 初二	20 初三	21 初四	22 初五
23 大暑	24 初七	25 初八	26 初九	27 初十	28 十一	29 十二
30 十三	31 十四					

▲ 特區成立紀念日HKSAR Establishment Day

AUG | 八月

S	M	T	W	T	F	S
		1 十五	2 十六	3 十七	4 十八	5 十九
6 二十	7 廿一	8 立秋	9 廿三	10 廿四	11 廿五	12 廿六
13 廿七	14 廿八	15 廿九	16 七月	17 初二	18 初三	19 初四
20 初五	21 初六	22 初七	23 處暑	24 初九	25 初十	26 十一
27 十二	28 十三	29 十四	30 十五	31 十六		

SEP | 九月

S	M	T	W	T	F	S
					1 十七	2 十八
3 十九	4 二十	5 廿一	6 廿二	7 廿三	8 白露	9 廿五
10 廿六	11 廿七	12 廿八	13 廿九	14 三十	15 八月	16 初二
17 初三	18 初四	19 初五	20 初六	21 初七	22 初八	23 秋分
24 初十	25 十一	26 十二	27 十三	28 十四	29 十五	30 十六

▲ 中秋節 Mid-Autumn Festival

中秋節 Mid-Autumn Festival

OCT | 十月

S	M	T	W	T	F	S
1 十七	2 十八	3 十九	4 二十	5 廿一	6 廿二	7 廿三
8 寒露	9 廿五	10 廿六	11 廿七	12 廿八	13 廿九	14 三十
15 九月	16 初二	17 初三	18 初四	19 初五	20 初六	21 初七
22 初八	23 初九	24 霜降	25 十一	26 十二	27 十三	28 十四
29 十五	30 十六	31 十七				

▲ 國慶 National Day
重陽節 Chong Yeung Festival

國慶 National Day
重陽節 Chong Yeung Festival

NOV | 十一月

S	M	T	W	T	F	S
			1 十八	2 十九	3 二十	4 廿一
5 廿二	6 廿三	7 廿四	8 立冬	9 廿六	10 廿七	11 廿八
12 廿九	13 十月	14 初二	15 初三	16 初四	17 初五	18 初六
19 初七	20 初八	21 初九	22 小雪	23 十一	24 十二	25 十三
26 十四	27 十五	28 十六	29 十七	30 十八		

▲ 追思節 All Soul's Day

DEC | 十二月

S	M	T	W	T	F	S
					1 十九	2 二十
3 廿一	4 廿二	5 廿三	6 廿四	7 大雪	8 廿六	9 廿七
10 廿八	11 廿九	12 三十	13 十一月	14 初二	15 初三	16 初四
17 初五	18 初六	19 初七	20 初八	21 初九	22 冬至	23 十一
24 十二	25 十三	26 十四	27 十五	28 十六	29 十七	30 十八
31 十九						

▲ 聖誕節 Christmas

聖母無原罪瞻禮 Feast of Immaculate Conception
聖誕節 Christmas