

GERIATRICS UPDATE

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Physical Exercise

There is accumulating evidence that the level of physical exercise is a major determinant of functional decline in old age¹. The benefits of physical exercise in older people with or without disease were recently extensively reviewed by Christmas & Ross². It has beneficial effects on body composition³, bone density, balance⁴, functional performance¹, psychological health, pain from osteoarthritis^{5,6}, blood pressure⁷ and insulin sensitivity.

It is therefore imperative for physicians to advise and encourage their older patients to perform physical exercise regularly. A cumulative duration of moderate exercise for thirty minutes per day has been recommended⁸. Guidelines on the prescription of exercise for physicians have been published^{2,9}. In brief, one should start by assessing the recent and long standing exercise habits and lifestyle of the patients. Advice can be divided into three parts: lifestyle modification, resistance training and aerobic exercise. Resistance exercise is important for muscle power and balance, whereas aerobic exercise improves cardiorespiratory fitness. Contraindications against exercise are few¹. The main barriers against regular exercise in older people are psychosocial¹⁰. The involvement of family members is very important to success. Home exercise programmes are as effective as exercise groups.

Hip fracture

Dementia is associated with poor functional outcome in hip fracture patients, and the benefits of geriatric rehabilitation in this patient group have been uncertain. In a recent randomised controlled study conducted in Finland¹¹, 243 previously independent older people with uncomplicated hip fractures were randomised to either standard rehabilitative care in a local hospital or active rehabilitation in a geriatric ward in the only specialist hospital of the district, followed by domiciliary physiotherapist visits. It was found that subjects with mild to moderate dementia, defined by mini mental test score between 12-23 out of 30, had significantly shorter hospital stay in the geriatric rehabilitation group. There was a trend of

more community living at one year among the moderately demented (MMSE 12-17) in the intervention group (62% versus 33%, $p=0.1$). There was no difference between the two study groups in the outcomes of the very demented or normal elderly.

Delirium is also very common among hip fracture patients. In a prospective cohort study, 52/126 (41%) of elderly hip fracture patients developed delirium. 32% of the delirium persisted at one month and this was independently predictive of poor outcomes¹². Hyponatraemia is an important cause of post-operative delirium. A lot of comments followed an editorial suggesting that injudicial use of isotonic and hypotonic intravenous fluids was a major cause of hyponatraemia after hip surgery¹³. A group reported that vigorous audit on the use of dextrose saline and 5% dextrose after hip surgery resulted in change of practice and reduced incidence of hyponatraemia¹⁴.

Hip protector has been shown to prevent hip fracture in a recent randomised trial¹⁵ and has been considered to be a breakthrough in hip fracture prevention¹⁶. Kannus et al. randomised 1801 ambulatory but frail elderly people either in nursing home care or under assisted living programmes at home¹⁵. One third of the subjects were given and encouraged to wear hip protectors, while two thirds were controls. They were followed up for eighteen months. The rate of non-compliance in the hip protector group was high. Nevertheless, the incidence of hip fracture was significantly reduced in the hip protector group (21.3 versus 46.0 per 1000 person-years, $p=0.008$). Moreover, it was estimated that among the hip protector group subjects, the chance of hip fracture per fall was 84% lower when hip protectors were being worn. A smaller hip protector suited for Chinese older people is being evaluated in Hong Kong.

Acute stroke care

Stroke prevention has been one of the most successful in preventive medicine. Statins, angiotensin-converting enzyme inhibitors and more powerful anti-platelet agents are now shown to reduce the risk of subsequent stroke. In contrast,

relatively few successful trials were found in acute management of stroke patients. Despite the efficacy of intravenous alteplase (rtPA) for acute stroke within a 3-hour window, recent efforts to extend the therapeutic window to 5-6 hours were disappointing. The ECASS II study in 1998¹⁷ (time window 0-6 hours) and the ALANTIS¹⁸ (time window 3-5 hours) both failed to establish the benefit of rtPA after 3 hours of stroke onset. The only exception is the use of intra-arterial thrombolysis among patient with proven occlusion of the middle cerebral artery¹⁹. In Hong Kong, lack of infrastructure and concern about haemorrhagic transformation of an infarct prevent widespread use of rtPA for acute stroke.

Anticoagulation of acute ischaemic stroke with low-molecular-weight heparin (LMWH) is a common practice in Hong Kong after the publication of the FISS study in 1995. Subsequently, similar studies on whites did not confirm the efficacy of LMWH^{20,21,22}. However, a post-hoc analysis suggested that patients with large artery occlusive disease may be benefited by anticoagulation. In Hong Kong, large artery occlusive disease especially intracranial disease is the predominant vascular lesion responsible for stroke²³. Therefore, it is possible that the differences in the effect of LMWH may be influenced by dissimilarity in stroke pathophysiology between whites and Chinese. Recently, a large randomised study of LMWH in Shanghai which recruited 691 patients using a protocol similar to FISS reported favourable preliminary results in short term outcomes as assessed by the European Stroke Scale at 10-day and 3-weeks²⁴. Because of the uncertainty of the benefit of LMWH in Chinese stroke patients, the Hospital Authority decided to conduct another clinical trial (FISS-tris) in Hong Kong. The results of these two studies will determine the role of anticoagulation in acute stroke. For patients not considered for thrombolytic or anticoagulant therapy, aspirin should be started after exclusion of intracranial haemorrhage by CT scan.

Despite the hype on the dramatic benefits of neuroprotection agents in experimental stroke animals, there has not been one positive trial of this class of drugs in human²⁵. Current strategy is to combine thrombolytic treatment with neuroprotection. Apart from drug treatment, stroke unit has been proven to reduce stroke mortality and morbidity. A recent publication further suggests that a geographically located stroke unit is more effective than a stroke team²⁶. Another promising tactic learns from the success of hypothermia in

head injury patients²⁷. Treatment of acute stroke is a rapidly evolving field and breakthrough is possible because of the increasing number of clinical trials currently in progress.

End of life care

The justification of widespread usage of long term tube feeding in patients with advanced dementia was questioned in a recent review article²⁸. There is no evidence that it can prolong life over and above good nursing care and careful hand feeding in people with advanced dementia. On the other hand, tube feeding is associated with physical restraints and poor quality of life. An American survey²⁹ showed that most surrogate decision makers for tube feeding in the cognitively impaired perceived that tube feeding would prolong life, but less than half of them were confident that the patients would have wanted a feeding tube and less than of them were aware of the risks of the tube feeding. Less than 40% of them indicated that that they would like to have tube feeding for themselves.

There has been an increasing focus on the quality of end of life care in hospitals^{30,31}. In an American study³², the family satisfaction of end-of-life care varied from hospital to hospital. Surrogates' perception that patients' preferences have been respected and death during index hospitalization were associated with satisfaction. A nurse specialist who provided counseling and psychosocial support throughout the terminal illness in hospital and in the community improved satisfaction. The lack of association between family satisfaction and socio-demographic characteristics suggests that it can be used as a reliable indicator of quality care.

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