Room for improvement in stroke prevention

Preventive measures against stroke are less than ideal at both community and hospital levels, according to Leicester based researchers.

Although mortality from stroke is declining in many countries, primary and secondary prevention by modification of risk factors could reduce the number of strokes still further. The researchers undertook a prospective study to estimate the prevalence of potentially modifiable risk factors in patients who had had a stroke and to document how they were managed before admission, in hospital and after discharge.

Over a one year period, all 468 patients admitted with a stroke were identified. The presence of previous stroke, hypertension, ischaemic heart disease, atrial fibrillation, diabetes, smoking and medication (particularly antihypertensives and anti-thrombotics) were recorded. Comparison with GPs' referral letters was made for these items and on discharge or death all hospital records were reviewed.

In total, 139 (29.7 per cent) received a CT scan. Only 19 per cent of those with a first stroke were free of any risk factors. Similar rates of risk factors were found among those admitted with a second stroke. On admission 29 per cent were on aspirin compared with 39 per cent of those discharged. Of the 63 with confirmed cerebral infarction 52 per cent were discharged on aspirin and 45 per cent of those admitted with their second stroke were taking aspirin. In the 78 with a history of fibrillation only 33 per cent were on aspirin and 9 per cent on warfarin. A past history of hypertension was present in 166 and 125 were on antihypertensive treatment.


Insulin found to speed up healing in burns

Giving infusions of insulin and dextrose might increase the speed of healing of skin grafts following burns.

In response to the stress of severe burns the body releases glucagon and cortisol. In turn, these hormones produce fat, muscle and protein catabolism and large amounts of glucose are released, which impairs the immune system's function.

Researchers at the University of Texas noticed that this process might be reversed by giving insulin. To test the idea they treated six people with burns in excess of 41 per cent, all of whom had received grafts, with intravenous insulin. Dextrose was added to prevent hypoglycaemia. On average the grafts in those given the insulin healed in 4.7 days, compared with 6.5 days in controls. While growth hormone can have a similar effect, insulin is much cheaper and more readily available.


Treating thrombosis in neonates with LMWH

Low molecular weight heparin (LMWH) might be an alternative to established treatment for deep vein thrombosis in neonates, London researchers report.

A girl born after 35 weeks' gestation had a successful balloon valvuloplasty for pulmonary stenosis two weeks after birth. Access was via the right common femoral vein. Ten days later she developed an extensive, occlusive proximal deep vein thrombosis and her entire leg became swollen and cyanotic.

As venous access for anticoagulation and monitoring would have been difficult in a baby weighing only 1.9kg, subcutaneous LMWH was begun. Swelling and discolouration had improved markedly within 48 hours. Scans after six days showed further improvement of venous flow and her leg was only minimally swollen. She was discharged and LMWH was continued at home.

On review at 12 weeks a scan of the affected leg was normal and anticoagulation was stopped. Complications of deep vein thrombosis in neonates are similar to those seen in adults and standard anticoagulation with heparin and warfarin has its limitations, the authors say.


Identifying risk factors for cerebral palsy

Randomised controlled trials of rigorous management of adverse antenatal factors on the frequency of cerebral palsy are needed, Oxford researchers say.

Increases in the survival of very preterm babies have been accompanied by a sharp rise in the rate of cerebral palsy among babies weighing less than 1,500g. To identify adverse and protective antenatal and intrapartum factors, the researchers undertook a case control study of 59 babies born before 32 weeks' gestation who developed cerebral palsy and 254 controls.

The frequency of cerebral palsy decreased with increasing gestational age and birthweight. Antenatal complications occurred in 215 (73 per cent) women with preterm deliveries. After adjusting for gestational age, an increased risk of cerebral palsy was associated with choorioamnionitis, prolonged rupture of membranes and maternal infection. Pre-eclampsia and delivery without labour were associated with a reduced risk of cerebral palsy. Intrauterine growth retardation did not increase the risk of cerebral palsy.

The authors say it is tempting to speculate that rigorous management of common adverse antenatal factors could lead to a reduction in frequency of cerebral palsy in these babies. This hypothesis could be tested in well designed trials.