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Update on Guillain-Barré syndrome. Guillain-Barré syndrome (GBS) is a peripheral neuropathy that causes acute neuromuscular failure. A recent paper reviewed its contemporary management (*BMJ 2008; 37: 227-231*). GBS is rare (1.2-1.6/1,000,000) however the incidence rises with age (with a minor peak in young adults) and is commoner in men. All cases of GBS present with acute neuropathy, defined as **progressive onset of limb weakness (both proximal and distal) that reaches its worst within 4 weeks**. Reflexes are usually lost early in the illness (although may be retained or even brisk in the subgroup with acute motor axonal neuropathy). Cranial nerves are frequently affected causing facial or bulbar palsies or eye movement problems. Associated autonomic signs such as tachycardia and hypertension are common. The respiratory system is affected in 1/3 of cases; a falling vital capacity is a

more useful warning of incipient respiratory arrest than dyspnoea or alteration in blood gases. **Diagnosis** is based on the clinical symptoms with nerve conduction studies being the most useful confirmatory test (abnormal in 85% even early on in the disease). About 20% are still ambulatory at time of diagnosis but then become bed-bound; occasionally patients do not progress beyond mild distal weakness. **Differential diagnoses** include hypokalaemia, lead poisoning, disease of the spinal cord, brainstem or muscle (such as polymyositis) or porphyria. **Causes:** Around 75% of GBS patients have a history of preceding infection, especially respiratory or GI (30% have evidence of *Campylobacter jejuni* and continue to excrete *C jejuni* in faeces). Researchers have suggested that several different organisms may cross react with peripheral nerve antigens, resulting in the development of antibodies against gangliosides, but the exact relationship between this and the development of GBS is still not completely clear. **Management:** Mortality with GBS has dropped dramatically (now less than 10% mortality) due to intensive care management (including ventilation as appropriate). In addition **patients are treated with either rapid administration of IV immunoglobulin (0.4g/kg/d X 5) or plasma exchange**, each of which shortens the time to recovery. Ideally this should be done within the first 2 weeks of onset of symptoms but some benefit may extend for up to 4 weeks. **Steroids are ineffective, despite the probable immunological aetiology.** Studies suggest a worse outcome in older patients, those with more severe deficits and in those with proven *C jejuni* infection. The author gives the following **tips on Guillain-Barré Syndrome for the general physician:**

- GBS should be considered in any patient developing rapidly progressive limb weakness
- Absent reflexes are a "red flag" for GBS in patients with rapidly progressive weakness
- Patients with suspected GBS should be referred to hospital as an emergency
- A history of weakness, preceded by respiratory or GI infections suggests GBS

[Editor's note: Further information is available from: www.gbs.org.uk (information leaflets for doctors / patients) and <http://neuromuscular.wustl.edu> (clinical features etc on GBS)]



Can we prevent drug-related hospital admissions? A recent study (*Arch Intern Med 2008; 17: 1890-6*) evaluated the risk factors associated with potentially preventable drug-related acute hospital admissions (n=12,793). Of the 714 drug-related admissions (5.6%), 332 were judged to be preventable. The commonest drugs involved were: anticoagulants, NSAIDs, oral corticosteroids (OCS), cardiovascular (CVS) drugs and anti-diabetic agents. The **commonest medication-related preventable errors** were: drug not indicated, inadequate monitoring, drug-drug interaction, contraindication to use, prescribing error (dose too high or too low), and incorrect use of regimen. **Other important**

patient determinants were: impaired cognition, dependent living situation, non-adherence to drug regimen, number of concurrent diseases (and medicines) and the number of prescribers involved in the patient's management. The authors suggest the following to reduce risk: **(1)** use GI protection with NSAIDs and low-dose aspirin in those at high risk of GI toxicity, **(2)** limit the duration of CNS active drugs where possible, **(3)** provide proper education for users of diuretics and antidiabetic agents on how to act in periods of low fluid and food intake and **(4)** monitor blood glucose levels in patients in whom OCS is initiated.



Paracetamol and ibuprofen for fever in children - Fever affects up to 70% of preschool children yearly and options for treatment include taking cool fluids, dressing lightly and the antipyretic drugs; paracetamol and ibuprofen. Current UK guidelines advise the use of either drug (but not both) for children unwell with fever. A community based randomised controlled trial with three arms was recently published (*BMJ 2008; 337: a1302*) which assessed whether paracetamol plus ibuprofen are superior to either drug alone in the management of fever in children. The trial included children (n=156) between 6 months to 6 years with axillary temperatures between 37.8-41°C. Exclusion criteria included: the child requiring hospital admission, being clinically dehydrated, chronic neurological, cardiac, pulmonary, liver or renal disease and known allergy/intolerance to either

drug. The parents were given advice on physical methods to reduce temperature and the provision of, and advice on the administration of, an antipyretic agent: paracetamol plus ibuprofen, paracetamol plus placebo or ibuprofen plus placebo. The dose of drug was determined by the child's weight: paracetamol 15mg/kg per dose and ibuprofen 10mg/kg per dose. The primary outcomes were the time without fever in the first four hours after administration of the first dose and the proportion of children reported as being normal on the discomfort scale at 48 hours. The results, which were on an intention to treat basis, showed that paracetamol plus ibuprofen was superior to paracetamol alone in relation to less time with fever in the first four hours (adjusted difference 55 minutes, 95% CI 33 to 77, P<0.001) but not superior to ibuprofen alone (adjusted difference 16 minutes, -7 to 39, P=0.2). There was no significant difference between the three treatments in benefit found for discomfort at 48 hours, although this may have reflected the low power of the study for this outcome. There was no significant difference in the rate of adverse events between the three groups. **The trial found that up to 13% of parents exceeded the recommended doses of antipyretics in the first 24 hours.** The authors of the study concluded that ibuprofen should be used first when treating young unwell children with fever and that the relative risks and benefits of paracetamol plus ibuprofen should be considered over a 24-hour period. An accompanying editorial advises (*BMJ 2008; 337: a1409*) that there is **no persuasive evidence for recommending a combination/alternating regimen of paracetamol and ibuprofen.**



Low dose aspirin and cognitive function. Reduced levels of cognitive performance in the elderly are thought to be associated with cardiovascular disease (CVD), therefore antithrombotic medication including aspirin could have a role in preserving cognitive function. A recent study assessed the effects of low dose aspirin on cognitive function in middle aged and elderly men and women with increased CVD risk (*BMJ 2008; 337: 1198*). Adults (n=3350) aged 50-75 years at moderately increased risk of CVD were randomised to receive either 100mg aspirin or identical placebo/day.

Exclusion criteria included concurrent use of aspirin, other antiplatelets or anticoagulants, history of myocardial infarction (MI), stroke, angina and other contraindications to aspirin therapy. Participants underwent neuropsychological tests at 3 months and 5 years in the study. Results showed 30% of the participants failed to complete the cognitive tests at follow-up, which was consistent with previous studies of similar design. **There was no significant difference in measures of cognitive function between the two groups.** The authors concluded that low dose aspirin does not affect cognitive function in middle aged or elderly people at increased risk of CVD. An accompanying editorial says lowering blood pressure is probably the best way of slowing vascular cognitive decline. Daily aspirin should be advised only for people at high risk of strokes or MIs and low risk of bleeding.