

From the Journals

New oral rehydration solution

The single formulation of glucose based oral rehydration solution (ORS) has been in use for more than 25 years in the prevention and treatment of diarrhoeal diseases, reducing the global mortality due to diarrhoea. Researchers have now developed an “improved” ORS formulation as safe and as effective as the original solution, with additional benefits. The new solution has reduced concentrations of glucose and salt, and reduced osmolarity. WHO and UNICEF have concluded that reduced osmolarity ORS is more effective than standard ORS for acute non-cholera diarrhoea in children. Reduced stool output, vomiting and need for supplemental intravenous therapy are the added benefits. The composition of the reduced osmolarity ORS is, sodium chloride 2.6 g/L, glucose, anhydrous 13.5 g/L, potassium chloride 1.5 g/L and trisodium citrate, dihydrate 2.9 g/L. *WHO Drug Information* 2004; **18**: 138–40.

Bedwetting in children: initial assessment and general advice

As a general rule, bedwetting in children occurs because they are unable to wake when the bladder is full. This is associated with bladder overactivity and decreased functional bladder capacity and high urine output at night. In the initial assessment, a detailed history should be taken from the parents, and if possible from the child, to identify treatable contributing factors. These include constipation, urinary tract infection, diet, stress and diabetes mellitus. Environmental factors should also be checked such as access to the toilet during the day and night, whether the light is kept on at night and where the child sleeps (eg. bunk bed, sharing bedroom with others). If any of the above is present, it should be corrected first.

Physical examination should include measuring the child’s blood pressure (if elevated, could indicate renal disease), examining the abdomen and genitalia, inspecting the spine for abnormalities suggesting an occult spinal problem (e.g. lipoma, tuft of hair, haemangioma) and testing knee and ankle jerks for neurological abnormalities. Appropriate investigations should be carried out to exclude a urinary tract infection, diabetes mellitus and renal disease.

General advice for bedwetting includes, suggesting the use of waterproof mattress coverings especially for children over 5 years, and avoiding caffeine containing drinks after mid-afternoon. Also, spreading adequate fluid intake (e.g. 6–8 glasses) throughout the day may reduce bedwetting by increasing bladder capacity, if there are factors suggesting an underlying physical abnormality. If the child does not respond to general management, he should be referred to a paediatrician for specific treatment. *Drug and Therapeutics Bulletin* 2004; **42**: 33–6.

Multiple-dose activated charcoal for treatment of yellow oleander poisoning

A single-blind, randomised, placebo controlled trial was done at Kurenegala Teaching Hospital to assess the efficacy of multiple-dose activated charcoal in the treatment of yellow oleander poisoning. On admission patients received one dose of activated charcoal and were randomly assigned to either 50 g of activated charcoal every 6 h for 3 days or sterile water as placebo.

Results of the study showed that there were fewer deaths in the treatment group, five (2.5%) versus 16 (8%) in the placebo group. Seven patients in the placebo group required anti-digoxin antibody Fab fragments versus none in the treatment group. Eleven patients in the placebo group required cardiac pacing versus one patient in the treatment group. The study concluded that multiple-dose activated charcoal is effective in reducing deaths and life-threatening cardiac arrhythmias after yellow oleander poisoning, and should be considered in all such patients. *Lancet* 2003; **361**: 1935–8.

Home blood glucose monitoring: is it cost effective in type 2 diabetes?

Home blood glucose monitoring is beneficial in people with type 1 diabetes and in type 2 diabetics on insulin, to guide insulin doses, and to detect and avoid hypoglycaemia. Home blood glucose monitoring may not be cost effective in people with type 2 diabetes on oral hypoglycaemic agents and dietary modification.

In the year 2001, people in the UK spent £ 90m on blood glucose testing strips, which was 40% more than the amount spent on oral hypoglycaemic agents. Home blood glucose monitors are a big business.

Although there have been studies on home blood glucose monitoring, many were poorly designed, and lacked statistical power. A meta-analysis performed on data from four studies comparing home monitoring of blood glucose or urine glucose with no monitoring in people with type 2 diabetes, found that there was no difference in the glycaemic control between these two groups. In three studies that compared people who monitored blood glucose with those who monitored urine glucose found no difference in their glycated haemoglobin levels.

Different authoritative bodies give varying recommendations on home blood glucose monitoring. The guidelines from the Scottish Intercollegiate Guidelines Network offered no recommendations about home blood glucose monitoring in type 2 diabetes. By contrast, the National Institute for Clinical Excellence supported the use of home blood glucose monitoring in type 2 diabetes. The time has come to move away from consensus recommendations, as none was supported by evidence from randomised trials. Hence, large randomised trials are needed to examine the role of home blood glucose monitoring in type 2 diabetes. In addition, new models of blood glucose meters need to be subjected to the same rigorous evaluation of cost effectiveness as applied to pharmaceutical agents. *British Medical Journal* 2004; **329**: 754–5.

The effect of allergen avoidance in asthma

A total of 937 children with atopic asthma aged 5 to 11 years participated in the Inner-City Asthma Study, a randomised controlled trial conducted in seven large USA cities. The study provided allergen remediation tailored to each child's allergic sensitisation and environmental risk factors. Each child's bedroom was visually inspected, and dust samples were collected every 6 months for 2 years. The children and their primary care givers were educated about the reasons for and the importance of the intervention, given the tools necessary to perform the remediation and shown model behaviour. The primary outcome was the number of days with maximal symptoms.

The study revealed that more than 60 per cent of the children's bedrooms had cockroach allergen at baseline. Dust-mite allergen was found in 84 per cent of the bedrooms.

There was a significant relationship between the reduction in the concentrations of both dust-mite allergen and cockroach allergen on the bedroom floor, and the reduction in asthma-related symptoms in the intervention group.

Through the use of effective intervention, the Inner-City Asthma study Group has shown the first significant reduction in asthma-related complications induced by avoidance of environmental allergens. *New England Journal of Medicine* 2004; **351**: 1134–6.

Catheter ablation for cardiac arrhythmias

Cardiac arrhythmias are caused by abnormalities in impulse formation or conduction that lead to slow or fast, and regular or irregular heart rhythms. Rapid rhythms may originate anywhere in the heart. They may be focal, or the result of an impulse running in a circuit composed of several interconnected cardiac cells. In the past, rapid rhythms were terminated or prevented by the use of anti-arrhythmic drugs. However, these drugs are known to have serious side effects and may even cause life-threatening arrhythmias or sudden death.

During the past two decades, the technology has been developed for localising the site of origin or pathway of an arrhythmia. With the help of intracardiac catheters it is possible to cure the rhythm disturbances by applying radiofrequency, laser, ultrasound or microwave energy, or freezing temperatures to the tissues causing the arrhythmia. Catheter ablation is performed for life-threatening arrhythmias, such as ventricular tachycardia and atrial fibrillation in a patient with Wolff Parkinson-White syndrome. Catheter ablation is also indicated when a rapid rhythm is present most of the day, severely impairing cardiac function and resulting in tachycardiomyopathy.

Bleeding and infection are the general risks associated with cardiac catheterisation. Specific risks of the procedure are related to the site of the catheter ablation. For example, catheter ablation for a tachycardia in the atrioventricular node carries the risk of creating atrioventricular block and necessitating the implantation of a pacemaker. When the tachycardia is not life-threatening but interferes with physical and social well-being, the risk of complications from catheter ablation has to be weighed against the possibility of a definitive cure. *New England Journal of Medicine* 2004; **351**: 1172–4. Facilities for catheter ablation of rapid cardiac rhythms are available at the Cardiology Unit of the National Hospital of Sri Lanka, Colombo.

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