Update

Kexelate – still an important agent in the management of hyperkalaemia

Sodium polystyrene sulfonate (Kexelate) is a synthetic resin that theoretically exchanges sodium ions for potassium ions in the gut, thereby increasing potassium excretion in stool.

Its use in the management of hyperkalaemia has been brought into question recently, following a warning issued by the FDA.[1] Consequently, many emergency medicine clinicians have advised against its use in the management of acute hyperkalaemia. Studies demonstrating serum potassium-lowering properties are small and poorly designed.[2,3] Case reports demonstrating gastrointestinal tract (GIT) complications deal almost exclusively with Kexelate-sorbitol combinations,[4] which are not generally used in South Africa. Sorbitol alone has been demonstrated to cause GIT complications in rats, while Kexelate alone has not.[5] Sterns *et al.* summed up the situation with this statement: 'Clinicians must weigh uncontrolled studies showing benefit against uncontrolled studies showing harm.'[6]

As there is a lack of high-quality studies we are guided by anecdotal evidence and expert opinion. The Groote Schuur Hospital Renal and Emergency Units have been using Kexelate for decades in the management of hyperkalaemia in both acute and chronic kidney disease. They have found it to be an effective and safe medication, with no known cases of serious GIT side-effects to date.

It must be stressed that the serum potassium-lowering effects of Kexelate are delayed owing to the mechanism of action. In the acute management of hyperkalaemia other agents (insulin, glucose) are of more importance for immediate effect. However, Kexelate should be given to these patients with a view to lowering serum potassium over the next 24 hours, while dialysis is being instituted or considered. We recommend that Kexelate be avoided in patients with prolonged bowel transit time, as these individuals are most at risk of GIT perforation.

Bradley Griffiths, MB ChB, DA (SA)
Medical Registrar, C15 Emergency Unit, Groote Schuur Hospital, Cape Town

Thomas Crede, MB ChB, FCP (SA), Dip HIV Management, DTM&H
Senior Specialist and Head, C15 Emergency Unit, Groote Schuur Hospital, Cape Town

Correspondence to: B Griffiths (bpgriffiths@gmail.com)

References available at www.cmej.org.za

SINGLE SUTURE

When you eat beats what you eat in staying healthy

Preventing obesity may be down to timing, in mice, at least. Mice allowed meals only within an 8-hour period were healthier than those that munched freely through the day, even when they consumed more fat.

A link between obesity and the time you eat meals makes sense, says Satchidananda Panda of the Salk Institute in La Jolla, California, as food choices generally get less healthy as the day progresses. Breakfast may include healthy fruits and grains, but late-night snacks are more likely to involve high-fat ice cream or high-calorie alcohol. Furthermore, research has shown that our internal clocks are closely tied to our metabolism; disrupting them can cause weight gain and diabetes.

Panda and colleagues fed two groups of mice a high-fat diet. One group could snack whenever they liked, the other could only eat during an 8-hour window. Both groups consumed the same number of calories each day. Two other groups were fed a healthy diet under the same conditions.

Three months later, the weight of mice on the all-day, high-fat diet had increased by 28%. Their blood sugar levels had gone up – a risk factor for diabetes – and they also had liver damage. In contrast, mice eating a high-fat diet for only 8 hours a day stayed healthy and didn't become obese. They also had better balance than mice on a healthy diet.

Panda reckons the shortened feeding period gives metabolic systems longer to perform their function uninterrupted by a new influx of nutrients.

The researchers have now begun experiments with human volunteers.

(Journal reference: Cell Metabolism [DOI: 10.1016/j.cmet.2012.04.019])
New Scientist online 18 May 2012.