

Low-dose ^{13}C -urea breath test for *Helicobacter pylori* shows promise

The ^{13}C -urea breath test (UBT) is accurate in diagnosing and confirming eradication of *Helicobacter pylori* infection. The dose of ^{13}C -urea currently used in UBTs ranges from 75 mg to 125 mg, but ^{13}C -urea is expensive, and studies have shown that it might be possible to use lower doses of ^{13}C -urea. In their two-part prospective study, Gatta *et al.* confirmed that low-dose ^{13}C -UBT can provide both an accurate diagnosis of infection and confirmation of *H. pylori* eradication.

Initially, the authors randomly allocated 300 consecutive patients with dyspepsia to undergo UBT with 10, 15, or 25 mg ^{13}C -urea, then upper endoscopy with biopsies. The best diagnostic performance for *H. pylori* infection was seen with 15 mg ^{13}C -urea: 100% specificity (95% CI 92.6–100) and 96.1% sensitivity (95% CI 86.8–98.9). This dose was used for *H. pylori* diagnosis in subsequent patients.

The authors then evaluated *H. pylori* eradication in 110 patients who had received eradication therapy, and for whom complete follow-up data were available. UBTs with 15 mg ^{13}C -urea had 98.9% specificity (95% CI 94.3–99.8) and 100% sensitivity (95% CI 79.6–100) for eradication.

The authors speculate that the good results obtainable with low-dose ^{13}C -UBT might mean that a low-cost test could be developed, which would be of particular value in developing countries.

Chrissie Giles

Original article Gatta L *et al.* (2006) Accuracy of breath tests using low doses of ^{13}C -urea to diagnose *Helicobacter pylori* infection: a randomised controlled trial. *Gut* 55: 457–462

Effects of zinc supplementation on use of antidiarrheal therapy

Zinc supplementation is known to reduce the duration of diarrhea and decrease the requirement for antibiotics and other medication. There is concern, however, that in developing countries zinc supplementation might reduce use of oral rehydration solution (ORS), which is vital for the prevention of childhood death from diarrhea. The INCLEN study, therefore, aimed to evaluate the effects of zinc supplementation

on medication use, and particularly on ORS use, in five developing countries.

In the study, 2,002 children between the ages of 2 and 59 months with acute diarrhea were randomly allocated to receive either ORS and 20 mg zinc orally each day or ORS alone. Outcomes included patient compliance with zinc supplementation, ORS use in the 24 h before first follow-up, and use of other medication. The team also provided counseling and culturally appropriate messages to parents of children given zinc, to encourage use of the supplement.

In all but one of the sites, use of ORS was the same between the two groups on days 3 to 5. Less medication was used by children who were given zinc (absolute difference 3.8%, 95% CI 1.7–5.9%) and compliance with zinc supplementation was 83.8% (95% CI 81–86%). The rate of vomiting (a possible side effect of zinc) did not differ between groups.

In conclusion, the use of zinc alongside culturally appropriate messages does not affect ORS use in acute diarrhea but does reduce the requirement for other medications.

Chrissie Giles

Original article INCLEN Childnet Zinc Effectiveness for Diarrhea (IC-ZED) Group (2006) Zinc supplementation in acute diarrhea is acceptable, does not interfere with oral rehydration, and reduces the use of other medications: a randomized trial in five countries. *J Pediatr Gastroenterol Nutr* 42: 300–305

A donor risk index for liver transplantation

The boundaries for the use of organs for transplantation are constantly being pushed and changed, and the importance of donor characteristics for graft and recipient survival after liver transplantation are well-recognized by transplant physicians. In the field of kidney transplantation, analysis of the association between specific donor characteristics and graft failure has allowed the development of quantitative descriptions of organ quality, which facilitate decisions about whether to use a potential donor organ. The qualitative effect of specific donor characteristics on liver graft survival has been established. Feng and colleagues have now examined these donor risk factors for graft failure after liver transplantation, with the intention of yielding a quantitative donor risk index.