

Pilot study of a low-cost CLO test

We conducted a study to evaluate the validity and accuracy of McNulty's recipe for rapid diagnosis of *Helicobacter pylori* on antral biopsy specimens in hospital practice in Sri Lanka. Endoscopy findings and case notes of 26 consecutive patients (male=15), who were admitted to the medical unit, Base Hospital, Panadura, and who had antral gastritis on endoscopy during a 6-month period (November 1998 to April 1999) were reviewed. All had gastric biopsies, 2 from the antrum and 2 from the corpus for histology, and 2 from the antrum for the CLO test® equivalent (McNulty's solution), prepared at National Hospital, Colombo.

The majority of the patients were in the 31 to 60 year age group. Endoscopy findings showed moderate to severe antral gastritis in 22, and associated duodenitis in 9. Histology showed chronic antral gastritis in 22 with *Helicobacter pylori* positive in 9, and negative in 1. The CLO test® equivalent was strongly positive in 24 h in 10 showing chronic antral gastritis, but did not become positive within the first 4 h, as described in the literature. Six patients showed a mild positivity in 4 h. The test showed a sensitivity of 100% and a specificity of 100%.

The commercially available CLO test® kit is expensive and available only in the private sector. Hence in hospital practice, the presence of *H pylori* is confirmed at present only by histology of antral biopsies, the result of which takes at least 2 to 3 weeks even in teaching centres.

The CLO test® which is most widely used as a bedside diagnostic test for *H pylori*, was developed by Barry Marshall (1).

McNulty and her colleagues published an inexpensive method for routine practice (2). In practice, a positive result occurs in about 75% of cases within 2 h, even at room temperature. Sensitivity is 90% and specificity is close to 100%. The preliminary results of the study indicated that the test takes a longer time to become positive in the local setting, ie. becoming mildly positive between 4 to 6 h, and strongly positive in 24 h. Thus it is possible that the *H pylori* species found locally may differ in its capacity to produce urease. The results re-confirm the usefulness of the CLO test® equivalent - McNulty's recipe, as a rapid, easy to perform, sensitive and low cost bedside diagnostic test to detect the presence of *H pylori* in biopsy samples that could be widely used in local practice.

References

1. Marshall BJ, Warren JR, Francis GJ, Blincow ED. Rapid urease test in the management of *Campylobacter pylori* associated gastritis. *American Journal of Gastroenterology* 1987; **82**: 200-10.
2. McNulty CA, Dent JC, Uff JS, Gear MW, Wilkinson SP. Detection of *Campylobacter pylori* by the biopsy urease test; an assessment in 1445 patients. *Gut* 1989; **30**: 1058-62.

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