To the Editors:

A pilot study of a low cost CLO test

The preliminary results of a study conducted by us on McNulty's solution (a cheap alternative to commercial CLO test) at the endoscopy unit, Colombo South Teaching Hospital show a similar pattern with regard to the time taken for a positive result to that conducted by Satarasinghe and others (1). The time taken for biopsies to give a positive result with McNulty's solution is longer than that determined by McNulty (2). Of the 13 biopsies that gave a positive result with McNulty only 2 were positive within 2 hours, 9 in 6 hours, and 4 within 24 hours. These results persuaded us to carry out the following project to determine the minimal concentration of *Helicobacter pylori* and the time taken according to concentration to initiate a colour change, and to determine if Sri Lankan clinical strains differ from the control strain (NCTC11637) for a positive result by

the McNulty urease test.

We took an initial concentration of 5×10^8 from the strain NCTC11637 and two (as culture is difficult we currently have only this number) clinical isolates from Sri Lanka. A serial dilution of 1 to 10 was done in isotonic saline, and 100 μ l of each dilution was inoculated to McNulty solution. Time taken for the solution to undergo a colour change with and without incubation at 37° C was recorded.

The urease test made in our setting (McNulty's solution) detected the presence of organisms in 5 minutes at 5×10^8 and within 2 hours at 5×10^6 . However the test became positive only at 12 hours at 5×10^5 . None of the other dilutions, including the negative control became positive even with 24 hours' observation.

We also observed that the intensity of the colour diminished with the concentration of the organism (visual reading). Incubation at 37° C did not give a faster positive result. Similar results were observed in both the control NCTC strain and in our Sri Lankan clinical isolates.

We concluded that a sufficient colonisation must be present to get positive results quickly as described by McNulty. Incubation for longer periods up to 24 hours may be necessary to detect a positive result if colonisation is low. Further testing with Sri Lankan isolates would enable us to

determine if there is a difference in the urease production of local strains when compared to a control strain.

References

1. Satarasinghe RL, Vidyathilake HMS, Jayamaha DH, Siriwardena S. Pilot study of a low cost CLO test. *Ceylon Medical Journal* 2002; 47: 36.
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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