Comparison of Commercially available CLO Test with the Locally Prepared Test

Pages with reference to book, From 139 To 140

Huma Qureshi, Waquaruddin Ahmed, Tariq Zia Lodi, Sarwar J. Zuberi (PMRC Research Centre, Jinnah Postgraduate Medical Centre, Karachi.)

Since the recognition and isolation of helicobacter pylori as the pathogen for various ulcerative and non-ulcerative lesions of the upper gastrointestinal tract, serial tests have been introduced for its recognition and confirmation. Most of these tests are either cumbersome and time consuming[1] or require special laboratory techniques[2] and heavy funds. The rapid urease test (CLO test[3]), was therefore, developed to not only speed up the diagnosis but also reduce the cost. Todate the CLO test is used as the first choice of diagnostic test wherever helicobacter is being investigated. The cost of commercially available CLO test is approximately $5 (Rs.125) per test, but apart from high cost it is not readily available in Pakistan. We therefore, conducted a study in which we made our own CLO gel and compared its sensitivity with the commercially available test.

Patients, Methods and Results

Fifty consecutive patients undergoing upper G.I. endoscopy for various reasons were checked for associated helicobacter pylori infection. The CLO media was made mixing one part of peptone, one part of glucose, 5 parts of sodium chloride and 2 parts of potassium phosphate. One millilitre of phenol red was dissolved in 95 parts of water and the PH adjusted to 6.9 and the whole solution was autoclaved, then 5 ml of sterile urea was added[4] and 1 ml of media was poured in each sterile plastic self stoppered tubes (microfuge tubes) and kept in a refrigerator till further use. Endoscopy was done under topical anaesthesia without sedation and all findings were recorded on a proforma. Two biopsy samples were taken approximately 5 cms proximal to the pylorus. First sample was embedded in the commercial media and second in the local test media. Disposable needles were used to pick up the tissue. Time taken by the gel to change fromyellowto pink colour was noted at 5 minutes, 1/2, 1 and 2 hours. After each endoscopy, the endoscope and the biopsy forceps were immersed in 3% cydex solution and washed with soap and tap water prior to each use to avoid contamination. Comparison of two tests showed immediate colour change in both the tests in 22 cases and persistent negative results in 21cases. The positivity of local test was delayed to over 30 minutes in 11 (20.3%) cases (delayed positive).

Comments

The results of the commercial test are generally available within 5-15 minutes, with only a minority giving positive results after 30 minutes[3]. If therefore, 30 minutes are taken as the end point of the study, the results of our test matched with the commercial test in 80% cases, thereby missing only 20% cases. The yield could be increased to 100% if one hour is taken as the end point. The cost of locally prepared CLO test is approximately Es. 10 per test which is 25 times less than that of the commercial test. It is therefore, suggested that every effort should be made to make the CLO test locally but no compromise should be made on the quality of the test in term of its speed of positivity.

References

1. Goodwin, CS., Blincow, ED., Warren, JR. etaL Evaluation of culture techniques for isolating compylobacter pyloridis from endoscopic biopsies of gastric mucose. 3. Clin. Patrol., 1985;38:1127-31.
2. Logan, R.P.H., Polson, R.J., Misic Wiez, J.J. et al. 13 simplified single samplecarbon urea breath test for belicobacter pylon: comparison with bistology culture and ELISA serology. Gut, 1991;32:1461-64.
3. cLO test Manufactured byDelta West Limited, Western Australia.
4. Cliodna, MM., McNulty, Julie, C, Dent Off, J.S., Gear, M.W.L., Wilkinson, S.P. Detection of compylobacter pylori by biopsy ureasetest: an assessment in 1,445 patients. Gut, 1989;30:1058- 1062.