DETECTION OF CAG-A AND VAC-A GENOTYPES OF HELICOBACTER PYLORI AND ANTIMICROBIAL SUSCEPTIBILITY TESTING IN ASSIUT UNIVERSITY HOSPITALS-UPPER EGYPT

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Abstract:

A total of 81 patients undergoing upper endoscopy at Assiut University Hospitals were enrolled in this study. Three biopsies were taken and tested for H. pylori infection by Campylobacter like organism (CLO) test, culture and histopathology, in which H. pylori was detected in 56.7%, 72.8% and 83.8%, respectively. A patient was considered as H. pylori positive on the basis of a positive culture considering it as gold standard and this should be confirmed at least by either histopathological finding and/or CLO-test. Cytotoxic associated gene-type A (CagA) and vacuolated associated gene-A (VacA) were determined by polymerase chain reaction (PCR) in the 59 positive clinical isolates, cagA was found in 23 (39%) & vacA was found in all cases (100%), S2 & m2 were predominant (55.9% & 64.4%), respectively, followed by S1 & m1 (44.1% & 35.6%), respectively. CagA was found to be associated with peptic ulcer disease (PUD) mainly duodenal ulcer (DU) as well as gastric ulcer (GU) and gastric cancer (GC). VacA S1m1 was associated with PUD both DU & GU, while S2m2 was associated with non-ulcer diseases (NUD) mainly pangastritis. Antimicrobial sensitivity test of the 59 H. pylori isolates was done against the five most commonly used antibiotics. The most resistance was to metronidazole (91.5%), followed by amoxicillin (71.2%), tetracycline (35.6%), clarithromycin (18.6%) and the least resistance was to ciprofloxacin (8.5%). The aim of the present study was to detect the putative virulence factors cagA & vacA genes of clinical isolated H. pylori and correlated with the gastroduodenal diseases that determined clinically as well as to determine the resistance rate in H. pylori to commonly used antibiotics using disk diffusion method.

Keywords:

cagA; vacA; PUD; NUD, GC & FOE

Published In: