helicobactBacteriological and biochemical studies on er pylori strains isolated frome gastric disorder patients

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There is a close relationship between the injury of Helicobacter pylori and gastrointestinal disorders (i.e., Inflammations of the stomach and duodenum, stomach duodenum ulcers and gastric cancer).There are many methods of diagnosis for these bacteria depends on endoscopic gastric sampling of patients suffering from infections and ulcers in the stomach and duodenum and methods based on sampling of serum. It is known that the endoscope way is convenient for patients because sometimes caused by the transfer of infection as well as the resulting pain so this study aims to:1- Isolate bacteria from 50 patients infected with infections and ulcers of the stomach and duodenum from different parts of the governorate of Dakahlia, including 34 females and 16 males, aged between 25 to 75 years, as follows:Taking faeces, sputum and dental plaque specimens of patients.H. pylori growing in the suitable and special media.Identifying the H. pylori after cultured morphologically firstly, then using Gram's stain and then using biochemical tests (catalase, urease and oxidase).Making antibiotic sensitivity test.Extracting the total proteins of H. pylori and the separation of these proteins using electrophoresis technique (SDS-PAGE) and identified after stained by coomassie blue R-250.This method is important and rapid in the discrimination between strains of H. pylori as the protein separation of bacteria give us complete information about the molecular weight and complex structure of the protein.The obtained results showed identified as:1- After isolating the microbe show that H. pylori, where it gave a positive result with urease, catalase and oxidase tests.2- Antibiotics sensitivity test of identified culture of H. pylori was done. This test indicated that the organism was sensitive to Imipenem (100%), Ertapenem (100%), Levofloxacin (86%), Ceftriaxone (80%) and Ciprofloxacin (80%), While, the isolated organism was resistant to Vancomycin (100%), Trimethoprim (73%), Amoxicillin+Clavulanic acid (66%), Azithromycin (60%) and Sulbactam + Ampicillin (60%).3- As the classic microbiological techniques could be used to diagnose H. pylori, SDS-PAGE add more information about H. pylori protein pattern. The protein profiles in sodium dodecyl sulphate poly-acrylamide gel electrophoresis (SDS-PAGE) has the advantage of rapid distinction among associated strains. As it can be used to separate all proteins and give information about the molecular weight and subunits composition of protein complex. The protein pattern of H. pylori extracts were resolved on 12% SDS-PAGE and stained with coomassie blue R-250. The

protein patterns contained 15 discrete bands they have molecular weights ranging between 10 - 270 KDa. Prove the existence of six strains of bacteria H. pylori by SDS-PAGE technique.This study found that, all strains containing protein have molecular weight 128 kDa called (Cag A) which is responsible for making bacteria pathogenic and causing ulcers and protein have molecular weight 86 kDa called (Vag A) which is responsible for secretion that induces multiple structural and functional changes in epithelial cells. We also found that the protein have molecular weight 26 kDa called (Ure A) is present in all strains except only one contained the protein a molecular weight 55 kDa called (Ure B) and are responsible for the urease enzyme production which is important to preserve the life of bacteria from the acids found in the stomach.4- The present study was done on 50 cases from different places of Dakahlia governorate. They were 34 females and 16 males, with ages ranging from 25 – 75 years. They were suffering from gastric troubles (42%), gastritis (26%), duodenitis (6%), gastric ulcer (16%) and duodenal ulcer (10%).5- A results of the present study revealed that 30 out of 50 patients (60%) were found to be infected with H. pylori.6- Prevalence of H. pylori infection increased in age between 25 – 55 years but decreased in age between 56 – 75 years in stool and sputum specimens; (i.e. no relation between H. pylori infection and increasing in age).7- Prevalence of H. pylori infection increased in females (67.6%) than in males (43.8%) (P