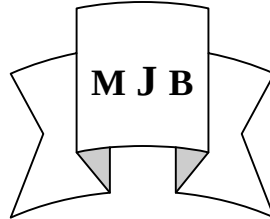


The Pattern of Gastric Mucosal Cells in Peptic Ulcer Patients .

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Abstract

This study aimed to investigate the pattern of gastric cells count in peptic ulcer patients. 200 patients with peptic ulcer disease were included in this study, 160 of them have Du and 40 of them have GU. Eighty normal subjects were considered as control group .We had performed gastric antral, and gastric body mucosal biopsy for all these patients with peptic ulcer and including the control group in order to study the histopathological pattern of gastric mucosal cells. The results, of this study showed that the parietal cells count significantly

($P < 0.01$) higher in duodenal ulcer patients than normal control group and also significantly lower in gastric ulcer patients than control group. There was no significant difference in parietal cells counts in peptic ulcer patients whether infected with H-pylori or non infected with H-pylori . Also the chief cells count was significantly ($P < 0.05$) higher in duodenal ulcer patients than control and was significantly Lower in gastric ulcer patients than control . H-pylori infection has no effect on chief cells count in Du and Gu patients than control group . mucous cells count was significantly ($p < 0.01$) Lower in duodenal and gastric ulcer patients. patients with peptic ulcer disease infected with H-pylori had Lower mucous cells count than those non infected with H-pylori .There was non –significant difference ($P > 0.05$) in D- cells and G-cells count between duodenal ulcer patients and control group, but there was a significant decrease in D- cells and G-cells count in gastric ulcer patients than control . H-pylori infection has no effect on D- cells and G- cells count in peptic ulcer patients .

الخلاصة

هدفت هذه الدراسة لمعرفة التغير بأعداد الخلايا المعدية لمرضى القرحة الهضمية. تضمنت هذه الدراسة 200 مريض من مرضى القرحة الهضمية ، 160 منهم مريض بقرحة ألاثني عشر و 40 منهم مصاب بقرحة المعدة وشملت الدراسة 80 من الناس الأصحاء ادخلوا كمجموعة سيطرة . أخذت خزعة من غاروجسم المعدة لكل من مرضى القرحة الهضمية والأصحاء لغرض الدراسة النسيجية للخلايا المختلفة في المعدة .

نتائج هذه الدراسة أوضحت وجود زيادة معنوية ($P < 0.01$) في إعداد الخلايا الجدارية في مرضى قرحة الاثني عشري مقارنة بمجموعة السيطرة ووجود انخفاض معنوي في إعدادها في مرضى قرحة المعدة مقارنة بمجموعة السيطرة . لا يوجد تأثير معنوي ($P > 0.05$) لبكتريا الهليكوبكتريا بايلوري على اعداد الخلايا الجدارية. كذلك وجد ارتفاع معنوي ($P < 0.01$) في اعداد الخلايا الرئيسية في مرضى قرحة الاثني عشر مقارنة بمجموعة السيطرة وانخفاض معنوي في أعدادها في مرضى قرحة المعدة مقارنة بالسيطرة ولم يكن لبكتريا الهليكوبكتري

بايلوري تأثيراً معنوياً ($P > 0.05$) على أعداد الخلايا الرئيسية . وجود انخفاض معنوي

($P < 0.01$) في اعداد الخلايا المخاطية في مرضى قرحة الاثني عشري وقرحة المعدة مقارنة بمجموعة السيطرة. وجود انخفاض معنوي في اعداد الخلايا المخاطية في المصابين ببكتريا الهليكوبكتر بايلوري مقارنة بغير المصابين بها . عدم وجود فروق معنوية ($P > 0.05$) في أعداد الخلايا G- وخلايا-D بين مرضى القرحة الهضمية وكذلك مجموعة السيطرة . ولم يكن هنالك تأثير لبكتريا الهليكوبكتر بايلوري على أعداد هذه الخلايا .

Introduction

The stomach is divided into five parts : the cardiac the fundns, the body , the antrum and the pylorus . Fundus and body are identical in microscopic structures so that only four histolwical regions are recognized[1] . In the mucosa of body and fundns at least four distinct cells types are distinguished :- mucus secreting cells, acid secreting cells also called oxyntic or the parietal cells that secrets Hcl and intrinsic factor, pepsinogen secreting cells or chief cells and cells that secret various endocrine hormones[2] . In the antrum also there are mucus secreting cells, pepsingen secreting cells, hormone secreting cells [G-cells that secrets gastrin hormone and D- cells that secrets somatostation hormone]. In the cardiac of the stomach, mucus secreting cells are predominant, whilst oxyntic and chief clls are infrequent . The pyloric region composed of cells resembling mucus secreting cells but oxyntic cells are absent [3] . Many workers mentioned that patients with duodenal ulcer produce about twice as much Hcl as normal subjects while patients with gastric ulcer produce normal or reduced amount of acid . The real cause of increase gastric acidity till now is unkown[4] . [5]has been Linked between parietal cells number and gastric acidity , increase parietal cells number Leads to increase gastric acidity and decrease parietal cells number Leads to decrease gastric acidity. [6]pointed out the increase of gastric acidity in patients with duodenal ulcer is related to increase in the

sensitivity of parietal cells to gastrin rather than the number of parietal cells. While [7]mention that the existence of abnormalities in gastrin release in patients with duodenal ulcer responsible for increasing the gastric acidity .

[8]Showed that the Low acid in gastric secretion associated with alow-normal parietal cells mass. Also this finding may be related with encroachment of oxyntic gland atrophy .

Peptic ulcer is associated with many anatomical, physiological, biochemical changes. Owing to the fact that insufficient informations concerning the effect of peptic ulcer on patterns of stomach cells . So this study aimed to provide insight into This question and to know some histological changes in our patients .

Materials and methods

This study was carried out in the gastroduodenal endoscopy unit of Hilla surgical teaching hospital . Over a period of 19 months (from November 1998 to may 2000). 200 patients with peptic ulcer, 160 patients who were diagnosed endoscopicaally with duodenal ulcer and 40 patients also were diagnosed endoscopically as gastric ulcer .All these patierits under went endoscopy for evaluation of upper abdominal pain . 80 healthy volunteers were included in this study as control group, Whereas patients with total gastrectomy, gastric cancer, presence of stomas ulcer, gastritis, duodinitis, esophagitis, super-ficial ulcer and ulcer induced by the use of non-

Steroidal anti-inflammatory drugs were excluded .

Endoscopic examination of upper digestive tract was done in the morning after an over night fast . patient was given simple Local pharyngeal anesthesia with 20% Lidocain (xylocain) and gasp biopsies open diameter [7] mm was used to obtain biopsy from the body and antrum in the major curvature. Specimens of gastric antrum was fixed in Bouin's solution and embedded in paraffin , cut in to 5 mm thick sections , and stained with hematoxylin and eosin stain . Cells count was carried according to Sydney system of cells count [9] .

Results

The results of this study showed that the parietal cells count was significantly ($p < 0.01$) higher in duodenal ulcer patients than normal control and also was significantly lower in gastric ulcer patients than control group . There was no significant difference in parietal cells counts in peptic ulcer patients wether infected with H.pylori or non – infected with H. pylori (fig-1) . The chief cells count was significantly ($p < 0.05$) higher in duodenal ulcer patient than control and was significantly lower in gastric ulcer patient than control . H. pylori infection has no effect on chief calls count (Fig-2). There was a significant decrease in mucous cells count ($p < 0.01$) in duodenal and gastric ulcer patients than in control group. As shown in (fig.3) patients with peptic ulcer disease infected with H.pylori has Lower mucous cells count than those non-infected with H.pylori There was non-significant differences ($p > 0.05$) in D-cells and G- cells count between duodenal ulcer patients and control group but there was a significant decrease in D-cells and G-cells count in gastric ulcer patients than control. H .

pylori infection has no effect on D- sells and G- cells count in peptic ulcer patient and control . (fig -4 - 5)

Discussion

The pathogenic link between gastric cells count and peptic ulcer disease is still not clear . However, results of this study is in agreement with several studies . The significant changes in parietal cells count in peptic ulcer patients compared with control group is identical with results of [4] who reported that gastric acidity of duodenal ulcer patients is higher than that of control due to increase parietal cells count in those patients and gastric acidity of gastric ulcer patients is lower than that of control due to decrease parietal cells count in those patients. Results of this study suport the results of [6] Who showed that H. pylori has no effect on parietal cells count and its effect may be comes from increase of sensitivity of parietal cells to gastrin hormone. While [9, 10] Reported that H. pylori did not induce change in cells density in the gastric mucosa, nor did it influences parietal cells activity or acid secretion.

The results of chief cells count in peptic ulcer patients appear to be associated with parietal cells count . And this result is confirmed with [11] who was attributed this result to cellular damage in gastric mucosa of gastric ulcer patients . Results of this study demonstrated strong association between peptic ulcer disease and mucous cells count, and this result confirm with [12] who attributed this significant decrease in mucous cells count in gastric ulcer patients to damage of this type of cells and this damage might allow back-diffuse of noxious luminal contents such as acid and pepsin and result in tissue

injury and ulcer formation [13]. The significant decrease in count of this cells in duodenal ulcer patient may be attributed to alteration in type of this cells . A number of studies have suggested that H.pylori can damage the mucous cells and protective mucous coat lining the gastric mucosa [4,9] .

Results of D-and -G- cells count are in a disagreement with [3] who found that a significant increase in these types of cells in peptic ulcer patients . Also [6,14] found great number of D-and G-cells in gastric mucosa of children infected with H.pylori and reported the cells number returned to the normal after eradication of this bacterium . Our finding may be reflect the mucosal damage in gastric ulcer patients and this identical with the results of [13,15].

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