CAMPYLOBACTER PYLORIDIS

AND

RELAPSING DUODENAL ULCER

THESIS

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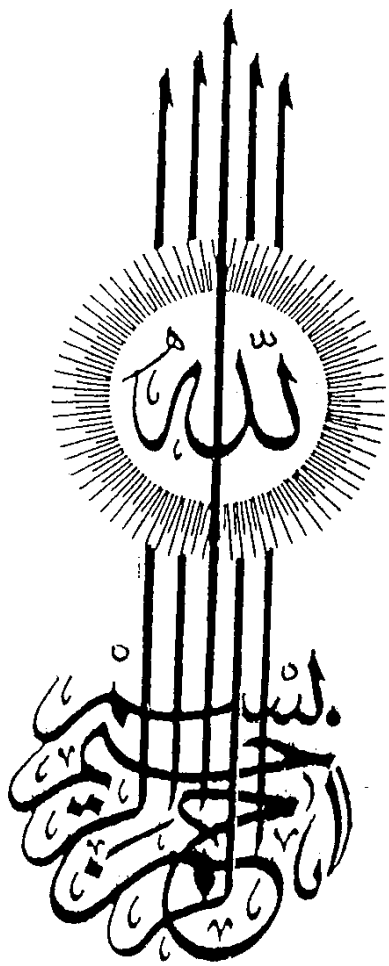

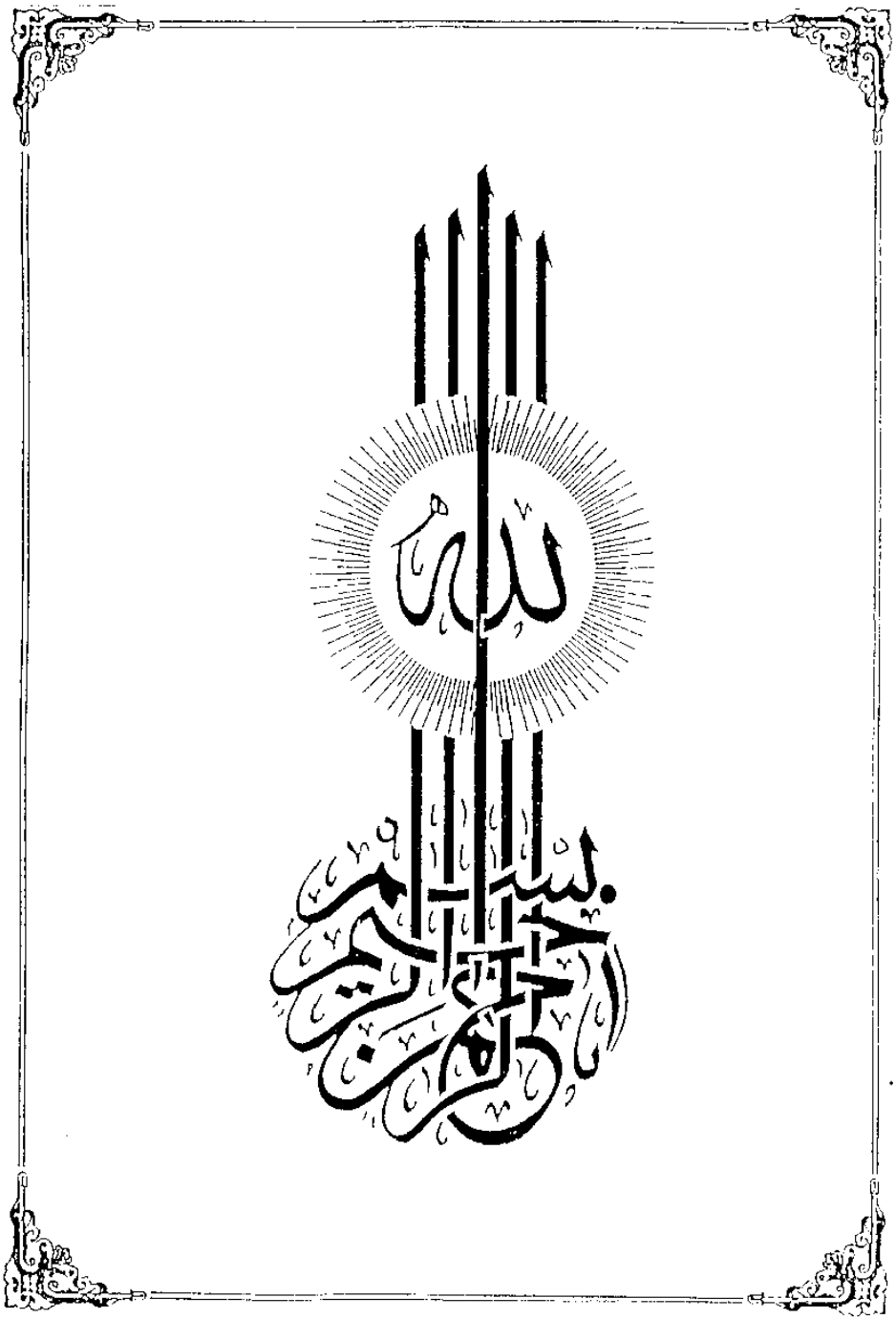

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CONTENT

Introduc' on and .im of the work

In patients suffering from peptic ulceration There have been many reperts of bacteria in association with the stomach mucosa, in contrast to transient bacteria found above the mucus layer .

Gastric spiral bacteria have been repeatedly observed and reported by Doenges, (I938) , Freedburg and Barron (I940) . Since that time the spiral bacteria have rarely been mentioned and the subject was not reopened with the advent of gastroscopic biopsy (Marshall I983) .

Rollason al , (I984) demonstrated spiral organisms in the stomach in cases of gastritis and duodenal ulceration . These new organisms was given the name of campylobacter pyloridis. (Marshall and warren, I984) .

Some authors reported the presence of campylobacter pyloridis in the antral mucosa even after healing of duodenal ulcer (price et al, 1985) .

The aim of this work is to detect the presence of this organism in cases of relapsing duodenal ulcer and comparing its incidences with that found in cases diagnosed de novo . This may be a trial to Find a causal relationship for recurrence .

INTRODUCTION AND AIM OF WORK

CAMPYLO BACTER PYLORIDIS AND PEPTIC ULCER

Gampylobacter pyloridis and peptic ulcer

The most comprehensive investigation of the gastric mucosal spirochaetes in man was that of Doenges (I938) , Freedburg and Barron, (I940). Since that time the spiral bacteria rarely mentioned and the bacteria have been everlooked for many years . With the advent of gastric biopsy , the subject of spiral bacteria with the gastric mucosa was reopened by warren (I983), and Marshall (I983).

Warren (I983), has observed small curved S-shaped bacilli in I35 gastric biopsies . The bacteria were closely associated the surface epithelium, both within and between the gastric pits. Bacteria were rare when there was no inflammation . In chronic gastritis bacteria were often found but rarely numerous . In active chronic gastritis bacteria were always present in large number.

Marshall and warren (I984), found a close association between byloric campylobacter and antral gastritis . The bacteria were not cultured unless the patients had histological evidence of both gastritis and byloric campylobacter . They concluded that no other disease state where in absence of complicating factors (such as ulceration) bacteria and polymorphonuclear cells are so intimately related without the bacteria being pathogenic . Peptic ulcer was the only endoscopic finding associated with histological gastritis and pyloric campylobacter .

In a study on I08 unselected patients attending for gastroduodenoscopy , spiral shaped organisms were cultured in 40% . Patients with positive results are those who have history of ulcer disease or active ulceration . These organisms are all similar or closely related strains (Campylobacter like) , (Ireland et al , I984) .

It would appear that the only significant disease associated with the presence of spiral bacteria in the stomach is gastritis (supeficial and atrophic) but it is of course highly debatable whether the bacteria have any causative role or whether they are simply taking the advantage of the altered milieu associated with gastritis (Rollason et al, I984).

Clearly " C.pyloridis" is strongly associated with peptic ulcer disease particulary duodenal ulcer . It rarely colonises normal antral mucosa . The organism was cultured in I6 of the 20 (80%) antral biopsies from patients with acute duodenal ulcer . Scanning microscopy identified the organism in two culture negative cases of duodenal ulcer raising this group to 90 % (smith et al , I984) .

In I985 , price et al show that c.pyloridis

was cultured from 29 patients out of 5I undergoing upper endoscopy for upper gastrointestinal symptoms. Of those positive patients 23 out of 33 with peptic ulcer and from this group I7 patients out of 2I (7I %) with duodenal ulcer . Also C.pyloridis persisted in 3 patients with duodenal ulcer after treatment and healing . They thought that persistance of C.pyloridis might be a reason for recurrence nature of peptic ulcer diseases . Their patients were treated with H2 receptor antagonists and it is speculuted that these preparations while producing rapid healing leave the mucosa susceptible to some ulcerogenic agents and subsequent relapse .

Is C.pyloridis a commensal , an apportunist or a primary pathogen ? Goodwin et al , (I986) , put an explanation for this question . Firstly , it should be determined whether C.pyloridis is associated with a specific lesion which can be detected ultrastructurally , and, secondly whether or not

this lesion occurs in absence of the organism . Specific serum antibodies should be detected in patients from C.pyloridis can be cultured , and IgA antibodies should be found in the gastric juice of patients . These antibodies should be less common and at a lower titre in patients without the organism . Specific antibacterial treatment directed against C.pyloridis should also reverse the specific lesions and relieve the symptom of infected patients .

The ultrastructural features of infection with C.pyloridis and their reversal after treatment with antibiotics are studied by Goodwin et al, (1986). Thin sections of the antral biopsy specimen before treatment with bismuth was showed considerable abnormalities of the mucosal ultrastructure . Most notably , the flattened luminal surface of normal mucus secreting epithelial cells were replaced by an irregular pattern due to dome like

bulging or ragged flap like protrusion of the individual epithelial cells . Partial to complete loss of surface microvilli was also evident . Intracellular mucin granules were depleted and often confined to apical cytplasmic protrusions . Intracellular oedema was prominent , but essential continuity of the epithelium was preserved . Superficial neck cells of the gastric pits were similary affected , but the tubular gland themselves seemed to be normal. Large numbers of C.pyloridis were distributed singly or in clusters over the luminal surface of the epithelium including the gastric pits . It seems that the organisms have a predilection for adherence to typical mucus secreting antral epithelium . After treatment with bismuth tablets alone the antral tissue showed an essentially normal mucosa without any spiral bacteria .

These observations clearly favour cytopathogenic