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شبكة المعلومات الجامعية
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شبكة المعلومات الجامعية التوثيق الالكتروني والميكروفيلم



شبكة المعلومات الجامعية

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Zagazig University
Benha Faculty of Medicine
Microbiology & Immunology
Department

CHEMOTACTIC ACTIVITY OF HELICOBACTER PYLORI AGAINST HUMAN NEUTROPHILS AND MONOCYTES

By
Fatma Mohamed Abd El-Rahman
(M.B.B.Ch.)

THESIS
Submitted in Partial Fulfillment for the Requirement of the
Master Degree in Basic Medical Sciences
(Microbiology & Immunology)

SUPERVISORS
Prof. Dr.

Roshdan Mohamed Arafa
Professor and Head of Microbiology and Immunology Dept.
Benha Faculty of Medicine
Zagazig University

Dr.
El-Metwally Zakaria Abdel Baset
Assistant Prof. of Hepatology
Gastroenterology & Infectious Diseases
Benha Faculty of Medicine
Zagazig University

Dr.
Mohsen El-Baz
Assistant Prof. of Microbiology and
Immunology
Benha Faculty of Medicine
Zagazig University

Dr.
Mohamed Noshey Mowafy
Lecturer of Microbiology & Immunology
Benha Faculty of Medicine
Zagazig University

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Benha Faculty of Medicine
Zagazig University**

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INTRODUCTION

INTRODUCTION

The close association between gastric inflammatory disease and the Gram negative bacterium *Helicobacter pylori* (*H. pylori*) is now well established. Many studies have confirmed a close association between the presence of *H. pylori* in the gastric mucosa and chronic gastritis, peptic ulcer and even gastric cancer (Blazer, 1990).

Helicobacter pylori is a spiral shaped microaerophilic gram negative bacterium, often observed colonizing the human gastroduodenal mucosa (Soltesz *et al.*, 1992).

Fedotin (1993) reported that *H. pylori* is found in more than 95% of patients with duodenal ulcers and in about 70% of patients with gastric ulcers.

Eradication of *H. pylori* is indicated in all infected patients with peptic ulcer disease. In those cases, however, reliable diagnosis of the infection is a prerequisite (Thijs *et al.*, 1995).

A wide variety of diagnostic test have been developed to detect infection with this organism. These include the non invasive indirect assay tests, such as the urea breath test and serodiagnostic tests. The other alternative in diagnosis is the direct demonstration of *H. pylori* in gastric biopsy specimens after invasive endoscopy. This is possible through culture, assay for urease activity, immunofluorescence technique and recently by molecular biological technique based on polymerase chain reaction (PCR) (Weiss *et al.*, 1994).

For isolation of *H. pylori* either non selective media as sheep blood agar or selective media as Skirrow's selective medium can be used. Suspected oxidase positive, catalase positive colonies are confirmed as *H. pylori* by morphology, positive rapid urease reaction (El-Ghazzawy *et al.*, 1995).

Patients with *H. pylori* gastritis develop a local and systemic humoral response with IgG and IgA antibodies (Talley *et al.*, 1991).

H. pylori secretes a chemotactic factor for human neutrophils and monocytes. A more likely role for this factor is in the production of *H. pylori* related gastritis with the recruitment of the inflammatory cells into the stomach wall (Criag *et al.*, 1992).

H. pylori elicits chlorinated toxic oxidant production from neutrophils and these substances play a critical part in *H. pylori* associated gastric mucosal damage (Suzuki *et al.*, 1994).

However gastritis associated with *H. pylori* infection may acts as predisposing factor for the action of ulcerogenic drugs, smoking and stress (Taylor *et al.*, 1991).

AIM OF THE WORK

Aim of Work

The aim of this work is to detect the relation between the presence of *H. pylori* and the production of gastritis. This is achieved by:

- Isolate *Helicobacter pylori* from the gastric biopsies using nonselective and a selective medium.
- Confirm the diagnosis by specific biochemical reactions
- Detect *H. pylori* by direct immunofluorescence from the gastric sample as a rapid method for diagnosis.
- Determine the chemotactic activity of the isolated *H. pylori* against human neutrophils.

*REVIEW
OF
LITERATURE*