

بسم الله الرحمن الرحيم

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***Protein Profile of Helicobacter Pylori Isolates from Sudanese Patients with  
Gastroenterological Inflammation***

***By***

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## **Dedication**

**I dedicate this work**

**To my father**

**My mother**

**My family**

## **ACKNOWLEDGMENT**

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## **Abstract**

As chronic gastritis and peptic ulcer diseases, particularly duodenal ulcer, are the most common endoscopic findings in Sudanese dyspeptic patients, it was necessary to study the association between *H. pylori* infection and gastro-duodenal diseases in developing countries such as Sudan.

**Material and Methods:** One hundred and twenty subjects referred to Gastroenterology Department, Ibn Sina Hospital, Khartoum were studied. Most of the patients were referred because of dyspepsia. After endoscopic examination 97 were found to have definite pathology and 23 were found to have normal endoscopic examination. Age range from 18 to 80 years old. . Male to female sex ratio was (2:1).

Endoscopic biopsies were collected from all subjects. In this study, culture of *H. pylori* was used as the gold standard method to which histological (urease) test, was compared as alternative diagnostic technique.

**Results:** 93 subjects were *H. pylori* positive when using culture. The CLO test detected 85 *H. pylori* positive and 35 were negative .

*H. pylori* was found not to be associated ( $p > 0.05$ ) with age, sex, cigarette smoking urease test, socio-economic status, residence, Tribe and water resources disposable system

However, it is associated ( $p < 0.05$ ) with complaints (epigastric pain, abdominal pain and vomiting), endoscopy finding (gastric ulcer, duodenal ulcer, gastritis and duodenitis) and the presence of 120 kDa.

The protein pattern of *H. pylori* when analyzed with sodium dodecylsulphate polyacrylamide gel electrophoresis (SDS-PAGE) technique are not markedly different between strains of different origin SDS-PAGE The major protein bands with molecular weights of 120, 94, 88, 75, 69, 67, 61, 48, 45, 42, 30, and 25 kDa were variably present.

The data from this study proves the high correlation of 120 Kda protein to endoscopic findings ( $\chi^2 = 16.047$  p value = 0.003 p < 0.05 highly significant. In this study 57 (61%) out 93 *H. pylori* strains that were isolated from 120 subjects possess the gene that expressed its 120 Kda product. The 120Kda was detected in *H. pylori* isolated from one subject with normal endoscopy , 11(11.8%) with duodenal ulcer, 8( 8.6) patient with gastric ulcer, 23(23.7%) patient with gastritis, 14 (15.1%) patients with duodenitis and only 1 patient with oesophagitis The present study confirms a high prevalence of *H. pylori* infection in Sudanese patients as in most population in Africa and other developing countries.

## مستخلص البحث

اجرى البحث عن وجود الجرثومه الحلزونية ( الهليكوباكتريلورى )

(Helicobacter pylori)

بين مجموعه من المرضى السودانيين الذين يعانون من الالتهاب المعدي .والالتهاب الاثنى عشر.قرحه المعدة وقرحه الاثنى عشر حيث تم اختبار الاشخاص الذين اجريت عليهم الدراسه بوحده المناظير بمستشفى ابن سينا التخصصى. الخرطوم السودان وشملت 120 شخصاً. اثبت الدراسه وجود علاقه بين الاصابه بالجرثومه الحلزونية (هـ . بيلورى ) في المرضى الذين يعانون من الالتهابات المعديه وتكون القرحة في المعدة والاثنى عشر .

في هذه الدراسه تم استخدام زراعه جرثومه (هـ . بيلورى ) CULURE

كالطريقه المثلى كمعيار ذهبي .واستخدمنا طريقه اخرى للتشخيص باستعمال اختبار انزيم اليورياز.الذى يعطي نتيجه سريعه للكشف عند وجود الجرثومه في خلال دقيقتين ولكنه ليس ذا حساسيه عاليه كما تم الكشف باستعمال الفصل الجيلاتين الكهربائى .

**Sodium doecyl sulphate polyacrylamide gel electrophoresis (SDS\_ PAGE)**

بعد صبغه بلون الكوماسى الازرق على وجود الاشرطه البروتينيه الرئيسيه ذات الاوزان الرئيسيه دائمه الوجود كالاتى 120و94و88و75و69و67و61و48و45و30و25.ونتيجه الفصل البروتين 57(61%) للمستضد 20% كيه دى وهو البروتين ذا الوزن الجزئى العالى من جمله 93 العدد الكلى للعينات الايجابيه للجرثومه. الذى تم عزلة من 13 (66%) لمرضى قرحة الاثنى عشر و18 (67%) لمرضى القرحة المعديه. و43 (51%) لمرضى الالتهابات المعويه. و23 (63%) لمرضى التهابات الاثنى عشر و23 لمرضى NUD اثبت الدراسه عدم وجود علاقه بين العمر و الجنس وتدخين السجائر ووجود جرثومه (هـ . بيلورى ). بينما كانت هنالك علاقه بين تعاطى الكحول والمهنه والاعراض المرضيه والقرحه والجرثومه الحلزونية.

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