Diagnosis and Virulence Determination of
*Helicobacter pylori* Infection in Adult Dyspeptic
Patients at a Tertiary Care Hospital of Pakistan

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- *Helicobacter pylori* infection occurs worldwide with more than 50% of the world population believed to be infected with this organism.
- Persistent infection with *H. pylori* is strongly associated with gastric and duodenal ulcers.
- Infected persons have a two to six fold increased risk of developing gastric cancer and mucosa-associated gastric lymphoma.
- Accurate diagnosis is essential for the effective treatment and management of infection caused by *H. pylori*. 
OBJECTIVES

- To ascertain the prevalence of *H. pylori* infection in adult dyspeptic patients in our setup.

- To evaluate the performance of different non-invasive diagnostic modalities available commercially.

- To determine the frequency of the various virulence factors mostly incriminated in the pathogenesis of gastric carcinoma.

PATIENTS & METHODS

Total Patients = 106

Enrolled = 93 (n)

- Endoscopic Biopsy
- Urea Breath Test
- Stool Antigen Detection
- Western Blot (n = 30)

Histopathology
Rapid Urease Test
ICT (Stick)
ELISA
**Results (n = 93 dyspeptic patients)**

Prevalence  

<table>
<thead>
<tr>
<th>Evaluation Parameters</th>
<th>Histopathology</th>
<th>UBT</th>
<th>Stool Antigen (ELISA)</th>
<th>Stool Antigen (ICT)</th>
<th>Rapid Urease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Positive</td>
<td>51</td>
<td>48</td>
<td>45</td>
<td>44</td>
<td>32</td>
</tr>
<tr>
<td>Sensitivity</td>
<td>x</td>
<td>93.6%</td>
<td>88%</td>
<td>86%</td>
<td>73%</td>
</tr>
<tr>
<td>Specificity</td>
<td>x</td>
<td>100%</td>
<td>97%</td>
<td>100%</td>
<td>100%</td>
</tr>
</tbody>
</table>

**Virulence Markers detection by Western Blot (%)**

<table>
<thead>
<tr>
<th>Total Patients</th>
<th>CIM</th>
<th>CagA</th>
<th>VacA</th>
<th>Urease A</th>
<th>Urease B</th>
</tr>
</thead>
<tbody>
<tr>
<td>30</td>
<td>94%</td>
<td>78%</td>
<td>50%</td>
<td>43%</td>
<td>43%</td>
</tr>
</tbody>
</table>

**CONCLUSION**

- There is a high prevalence of *Helicobacter pylori* infection in adult dyspeptic patients in our setup.

- Non-invasive tests like stool antigen detection have good diagnostic yield and should be incorporated in the diagnostic workup.

- Virulence markers from a large number of these patients stress the need for proper diagnosis and eradication of infection to minimize the morbidity and mortality.