SECRETOR STATUS AS A GENETIC MARKER IN DUODENAL ULCER - A COMPARATIVE STUDY

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It has long been established that various human body secretions like saliva, semen, gastric juice contain blood group antigens\(^1\). The individuals whose body fluids other than blood contain blood group antigens are known as secretors whereas the rest are non-secretors. The secretor status of an individual is a genetically controlled factor. The role of genetic factors in the pathogenesis of duodenal ulcer is well established\(^2\)-\(^4\). Support for hereditary tendency in duodenal ulcer is contributed by the occurrence of duodenal ulcer in both members of the monozygotic twins\(^5\). This observation was strengthened by a significant association between blood group "O" and duodenal ulceration\(^6\). Clarke\(^5\) found a higher frequency of non-secretors in duodenal ulcer patients than in controls. This study reports the secretor status of endoscopically proven cases of duodenal ulcer and apparently healthy controls and comparisons of our results with those reported by other investigators\(^5\).

PATIENTS, METHODS AND RESULTS

A total of 70 endoscopically proven duodenal ulcer cases and 100 healthy individuals were included in the study. The processing, storage and analysis of the saliva was carried out according to the procedure reported earlier\(^7\). The data was subjected to statistical analysis using chi-square test. Non-secretors were more frequent in duodenal ulcer cases than in controls (p < 0.01) particularly those with blood group 0 (Table I).

<table>
<thead>
<tr>
<th>Blood groups</th>
<th>Controls (%)</th>
<th>Patients (%)</th>
<th>P value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Non-secretors</td>
<td>Secretors</td>
<td>Non-secretors</td>
</tr>
<tr>
<td>A and B</td>
<td>27.5</td>
<td>72.5</td>
<td>45.0</td>
</tr>
<tr>
<td>O</td>
<td>20.0</td>
<td>80.0</td>
<td>43.0</td>
</tr>
<tr>
<td>All groups</td>
<td>24.0</td>
<td>76.0</td>
<td>44.0</td>
</tr>
</tbody>
</table>

COMMENTS

The study was based on a case-control comparison for secretors and non-secretors. Non-secretors were significantly more frequent among patients in all blood groups (p <0.01) but the difference was significant only for blood group 0 (p=0.05). These observations are consistent with those reported in earlier studies\(^5\). Among controls, the frequency of non-secretors was significantly higher (p <0.05) in Karachi than Rawalpindi\(^7\) and in United Kingdom\(^5\) than the combined data of the two studies done in Pakistan (Table II).
This may indicate that the Pakistani population is genetically less predisposed to duodenal ulcer than that of the United Kingdom or the difference may simply be due to higher frequency of blood group 0 in the Caucasians as compared to non-Caucasians. A more comprehensive population based study may define the group more predisposed to develop duodenal ulcer disease.

REFERENCES