Gastric cancer in Jordan

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ABSTRACT

Objectives: Studies regarding the patterns of tumors in Arabs have been under great scrutiny recently. Many investigators examined these patterns in different areas of the same country or a small area of the country. In Jordan, and with the establishment of a national cancer Registry, the natural history of tumors in Jordanians will be known. As a prototype of these tumors stomach cancer will be discussed, and its pattern will be described.

Methods: A retrospective review of all the cases registered as stomach cancer at Al-Basheer Hospital, a tertiary referral center from all parts of Jordan. Analysis was done for the years 1993-1996, recording age, sex, histologic type and method of diagnosis. Limitations of the study will be discussed.

Results: A total of 78 cases were diagnosed, with a mean of 19.5 cases per year. There was almost doubling of the register over the years (from 16 to 28 cases). The male to female ratio was 1.9:1 (51:27). The age of diagnosis was 50-60 years in 50% of the cases. The diagnosis is through endoscopy in all the cases, confirmed by surgery in 26. Histology was adenocarcinoma unspecified in 52 cases, poorly differentiated in 12 cases, 3 cases of well differentiated and 3 cases of moderately differentiated; there were 3 cases of squamous cell carcinoma, 3 mucinous carcinoma and 2 cases of lymphoma.

Conclusion: This pattern of disease is different from other areas in the Middle East, and reflects increased awareness of the disease in the general population and doctors. Further nationwide studies are awaited.

Keywords: Stomach cancer, Jordan.


There is a wide variation in the presentation, natural history and prognosis of stomach cancer worldwide. This may be related to many factors including environmental, genetic or other factors. Among Arabs, the studies regarding the natural history and prognosis are scanty and all reflect regional studies. In Jordan the National Registry for cancer is starting to record all the cases of malignancies in all sectors of the health services and detailed data is awaited. This study records the cases of stomach cancer referred to Al-Basheer Hospital, a large tertiary referral center from all parts of Jordan, and is also the only center with facilities for radiotherapy, during the years 1993-1996, aiming to show the pattern of stomach cancer in these cases.

Methods. All the cases with the diagnosis of stomach cancer were reviewed, the epidemiological data included age, sex, geographic distribution, and histologic type was defined as; well differentiated, moderately differentiated, poorly differentiated and other types. The methods of diagnosis were endoscopy and biopsy or surgery in all cases. The histologic diagnosis was made using the standard methods of staining procedures. Upper gastrointestinal (GI) endoscopy was performed at Al-Basheer Hospital as well as King Hussein Medical Center in referred cases.

Results. A total of 78 cases were diagnosed over the 4 year period. The male to female ratio was 1.9/
Table 1 - Number of cases in a year with percentage (%) of tumors.

<table>
<thead>
<tr>
<th>Year</th>
<th>Total No.</th>
<th>% of all tumors</th>
<th>% of GI tumors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1993</td>
<td>16</td>
<td>1</td>
<td>13</td>
</tr>
<tr>
<td>1994</td>
<td>14</td>
<td>1</td>
<td>11</td>
</tr>
<tr>
<td>1995</td>
<td>20</td>
<td>1</td>
<td>12</td>
</tr>
<tr>
<td>1996</td>
<td>28</td>
<td>2</td>
<td>17</td>
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No. - Number of cases; GI - Gastro-Intestinal

Discussion. Gastric cancer ranks 2nd in the frequency of gastrointestinal tumors in Jordan just after colorectal tumors with a percentage of 13% gastrointestinal tumors and 1.4% of all cancers in Jordan. Comparing this data to figures from nearby Arab countries showed that stomach cancer ranked 3rd amongst gastrointestinal neoplasms in Saudi Arabia in 1979, the 3rd tumor in Saudi males from the Riyadh area, and was the most common gastrointestinal tumor reported by Al-Mofarhe et al. In a MedLine search for stomach cancer in Arabs, stomach cancer was 2nd only to lung cancer in occurrence in Wilaya of Setif, Algeria; and in Zanzibar no exact figures were noted, but there was a low incidence of gastric cancer. These figures reflect the variations among the same country as well as between countries and indicate the need for local figures for each community.

In Jordan, and over the 4 years of study there was almost doubling of the cases of gastric cancer from 16 to 28 (1.2% to 2.1%), but this figure seems less striking when compared to the percentage of stomach cancer among gastrointestinal tumors which increased from 13% to 17.4%; these figures suggest a 33% increase. These findings may be explained by increased awareness between patients and doctors to the possibility of stomach cancer in those presenting with non-specific loss of weight, anorexia, as well as increased availability of endoscopic equipment and procedures in Jordan, although this could be a genuine increase in prevalence, which is different from western countries, and in Saudi Arabia (Riyadh area), but similar to the Asir area in Saudi Arabia, and conforms to previous conclusions that the trends in stomach cancer are not uniform even in the same country.

Our study showed that males out number females in a ratio of 1.9:1, this is less than the previous studies from Saudi Arabia with a male : female ratio of 3.4:1. Although this can be explained by male preponderance of disease in our parts of the world, men seek medical advice more frequently than females as the females may be ashamed to admit or to see the doctors.

The age distribution in our study is shown in Table 2 with 50% of cases between 50-69 years of age, and an age range of 20-90 years. These figures are in keeping with the assumptions and other observations that this disease increases with age.

Histologic types were mainly through endoscopic diagnosis (67%), and confirmed cases underwent surgery (33%) by biopsy, the classifications systems were adenocarcinoma in the cases of endoscopic diagnosis; and in the cases which underwent surgery the grade of differentiation was also estimated.

Only 2 cases of lymphoma of the stomach were recorded, this is because these tumors are registered with other lymphomas, and not as gastrointestinal tumors. Nonetheless, similar observations were
made by another group of oncologists in Jordan regarding the rarity of gastrointestinal lymphoma among registered cases of malignant lymphomas at King Hussein Medical Centre during the years 1996-1997 (published in an abstract form in the booklet of the 4th Scientific Medical Day of Internal Medicine Department held on the 9th of July 1998), and in keeping with data from other countries that state a frequency of 0.9-9% in various studies.  

The limitations of our study are that the total cases registered are not the actual figures, no data regarding the anatomic location was recorded, no predisposing or premalignant conditions were recorded; but with the passage of time more data may be added to the Register.

In conclusion, with increased awareness of the general population, stomach cancer is recognized more frequently in Jordan, the age and patterns of this tumor in Jordan are similar to Saudi Arabia. More studies are needed on a national basis.

References