Surgical Management of Malignant Gastric Tumours

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ABSTRACT
The aim of our study was to highlight the importance of better surgical outcome if presentation is earlier. Gastric cancer is second most common malignancy of gastrointestinal tract after colorectal carcinoma. The common presentation is pain epigastrium, weight loss, vomiting and anorexia. Patients usually present in advanced disease and only palliative surgery is possible. Commonest type is adenocarcinoma. We conducted a case series of 60 patients who were treated for gastric carcinoma at Mayo Hospital, Lahore from March 2003 to March 2008. The objective of study was to assess the morbidity, mortality and outcome of surgical management. Out of 60 patients included in this study, 27 patients were male and 23 female. Commonest presentation was vomiting 69.9%. Most of the patients presented in advanced disease. Operative procedures include Billroth-I & D1 resection, 20% Billroth II + L.N. dissection (16.6%), total gastrectomy along with reconstruction (6.7%). Most of the patients (23.3%) had palliative procedure in the form of bypass or feeding jejunostomy (56.7%). Only 30.1% presented in early stage of disease and its mortality rate was low. Postop complications recorded were diarrhea 30 patients, bilious vomiting in 24 patients, 2 patients underwent revisional surgery. Surgical outcome is directly related to stage of disease at presentation. Early presentation leads to better outcome.

Key words: Gastric carcinoma, D-resections, H-pylori Gastritis.

INTRODUCTION
In gastrointestinal tract (GIT) malignancies gastric carcinoma is the second most common malignancy after colorectal carcinoma. There is increase incidence amongst males with male to female ratio of 2:1 is encountered worldwide. Geographically incidence is high in Japan, Chile, China, Portugal, Russia and Bulgaria.

The most common histological type is adenocarcinoma. Majority of gastric cancer develop as well differentiated and a significant proportion progress to become undifferentiated. Gastric carcinoma is multifactorial in origin i.e., caused by H. Pylori, spicy-smoked and poorly preserved food, cigarette smoking, low consumption of fruits, vegetables and genetic abnormalities such as P53 mutation.

The presentation is with pain epigastrium, vomiting, weight loss, malena and anorexia. The physical findings are wasting and pallor, mild jaundice in late stages, mass epigastrium, enlarged supravaculicular nodes (Virchow's node), ascites, metastatic pelvic and ovarian deposits, (Krukenberg's tumor).

The investigations include barium study, upper gastrointestinal endoscopy with multiple biopsies, brush cytology, blood examination and CT abdomen. Surgery is the only potentially curative treatment and depends upon the extension and localization of tumor. Treatment of early gastric cancer is gastrectomy with removal of D1-lymph nodes, or recent alternatives such as laparo-endoluminal resection, photodynamic therapy. To be curative, resection with 2.0 cm of unscraped margins for early and well-circumscribed tumors and 5.0 cm for infiltrative advances lesions is adequate. Overall 5-year survival is now about 40% after potentially curative D2 resection in Britain. Fit patients with advanced or recurrent adenocarcinoma should be offered chemotherapy with 5FU, Cisplatin and Epirubicin.

Prognosis of early gastric carcinoma is good while those with stage-IV have poor outcome.

MATERIAL AND METHOD
This study was conducted on 60 patients in the surgical department of Mayo Hospital, Lahore from March 2003 to March 2008. All the patients presented with pain epigastrium, vomiting, weight loss, epigastric mass etc., were admitted through OPD, emergency or were referred by the physician. They were diagnosed by the clinical assessment and the investigations. The investigations included blood examination, chest radiograph, abdominal ultrasound, upper GI endoscopy & biopsy, barium study, CT abdomen and test for H. Pylori. The patients with comorbid disease like acute MI,
advanced liver disease, renal diseases were excluded from this study. After confirming the diagnosis the disease was staged. All the patients with carcinoma were operated after preparation. Postoperatively they were managed in the ward accordingly. The patients with gastric lymphoma were referred to oncology.

RESULTS

In this study 60 patients were included. Forty two patients admitted through OPD, 14 patients referred by gastroenterologist and 4 patients through emergency department. Overall mean age was 52.36 years (27-78 yrs) SD±14.47. In this study 56.7% (34) were males and 43.3% (26) were females with male to female ratio of 1.3:1.

Most of the patients presented with more than two symptoms at the time of presentation. The clinical features included epigastric pain, abdominal distension, epigastric mass, vomiting, haemetemesis or malena. Vomiting was the most common presentation 50% (30) (Table 1).

CT scan showed wall thickening in 60% patients, gastric mass in 66.7%, enlarged para-aortic lymph nodes in 40%, invasion of adjacent viscera in 10% and ascites in 33.3%. Liver function tests performed in all patients. They were normal in 73.3% while 26.6% patients had deranged liver functions.

Surgical procedures performed in these patients included Billroth-I + lymph dissection, (20%), Billroth-II + lymph node dissection (16.6%), gastrectomy along with reconstruction (6.7%), gastrojejunosotomy (26.7%), feeding jejunostomy (13.3%) and omental biopsy (6.7%). These procedures were different depending upon the stage of disease and condition of the patients. The postoperative histopathology report showed adenocarcinoma in 88.8%, squamous cell carcinoma in 5% and lymphoma in 6.6%.

Various complications recorded in post operative period e.g. 27.3% patients had fever, 20% had wound infections, while 33.3% had re-do surgery due to intractable bilious vomiting and 3.33% died in hospital. No patient had anastomotic leak, peritonitis, or on table death.

<table>
<thead>
<tr>
<th>Symptoms &amp; signs</th>
<th>Frequency</th>
<th>%age</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomiting</td>
<td>30</td>
<td>50</td>
</tr>
<tr>
<td>Weight loss</td>
<td>28</td>
<td>46.6</td>
</tr>
<tr>
<td>Epigastric pain</td>
<td>25</td>
<td>41.7</td>
</tr>
<tr>
<td>Epigastric mass</td>
<td>20</td>
<td>33.3</td>
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<tr>
<td>Malena</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Jaundice</td>
<td>06</td>
<td>10</td>
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<tr>
<td>Haemetemesis</td>
<td>04</td>
<td>6.8</td>
</tr>
<tr>
<td>Ascites</td>
<td>02</td>
<td>3.3</td>
</tr>
<tr>
<td>Troisier's sign</td>
<td>01</td>
<td>1.6</td>
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</tbody>
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DISCUSSION

In our study carcinoma is more common in males: with male to female ratio of 1.3:1 which is similar to study done by Bowels MJ. It is more common in old age. Most of the patients presented with vomiting, weight loss, anorexia and epigastric pain, which is similar to Muhammad G, Bowels MJ.

On barium study 43.3% patients had stomach wall thickening and 46.7% irregular mucosa, narrowing of pylorus seen in 46.7% patients which is similar to Bowels MJ and Dicken BJ who reported particular importance of barium studies in diagnosing ‘Linitis plastica’ and gastric outlet obstruction. Ahmad KK also showed diagnostic role of barium in secondary achalasia.

CT scan was performed in all patients showed stomach mass, enlargement of perigastric and paraaortic lymphnodes, invasion of adjacent viscera and free peritoneal fluid/ malignant ascites in various cases.

We found endoscopic biopsy be more accurate (93.3%) in diagnosing carcinoma stomach as compared to barium studies accuracy of which was only 51.1% which is similar to that of Noboru Shindoh et al in his study of 336 cases.

In our study we were able to perform curative resection in the form of partial gastrectomy + D1 in 43.3% patients which is comparable to Lee JH et al
whereas Di Martino however performed total gasterectomy and D2-resection in his study.\textsuperscript{15,16}

We performed palliative surgery with or without feeding jejunostomy in 50% patients and 6.7% had diagnostic exploration only in advanced cases, results are similar to studies by Bowels MJ, Tersigni R, and Mauro MA, who also emphasized on use of endoscopic laser treatments, endoluminal stenting or placement of feeding jejunostomy as a palliation.\textsuperscript{7,11,17}

Our experience of these palliative methods is very limited other than feeding jejunostomy because of non-availability of equipment and cost. We operated all the patients with carcinoma stomach. In 6 months follow up no mortality recorded in stage II while in stage-IIIb mortality was 28.57% in IIIB its 100% and in stage IV who underwent only palliative surgery 81.8% was the mortality by the end of 6 months.

Worldwide literature gives mortality in terms of 5-years follow up. MacDonald JS recorded 5-years mortality of 80-85% in stage-III when surgery alone was done while that of 15% in stage-IA and IB. In stage IV there is only 10 months median survival time with combination chemotherapy while “best supportive care” is associated with only 3-4 months median survival time.\textsuperscript{19}

CONCLUSION

Surgery is the only treatment of gastric cancer. Most of our patients presented in advanced stages of the disease, mainly due to lack of health-education, non-specific early symptoms, poverty. There must be some screening programme.

Newer advances in gastric cancer diagnosis and treatment such as endoscopic ultrasound, dye spraying method, endoscopic mucosal resection, photodynamic therapy.

REFERENCES