Elective peptic ulcer surgery was common before the discovery that peptic ulcer is caused by H. pylori and non-steroidal anti-inflammatory medications (NSAIDs). The discovery changed the management of the disease, but still, its complication could be seen as an emergency in the form of perforation or bleeding. A perforated ulcer can present early with chemical peritonitis or late with septic peritonitis. In late stage, it could cause severe sepsis which might lead to organ failure and mortality. Emergency surgical treatment is recommended for this condition.

The trend of peptic ulcer disease has changed over the last three decades, possibly because of the introduction of triple therapy management for these patients; nevertheless, the patients could still present with a perforated ulcer.

The aim of this study is to evaluate the pattern of presentation and mode of management of duodenal ulcer perforations.

METHOD

All patients operated with peptic ulcer perforation between January 2010 to December 2014 were included in the study.
patients presented with abdominal pain, 20 (48.8%) had upper abdominal pain and 20 (48.8%) generalized pain, no data was retrieved regarding pain for one patient.

Twenty-seven (66%) complained from nausea, 19 (46.3%) from vomiting, and 11 (26.8%) from loss of appetite and 6 (14.6%) from dyspepsia. Twenty-nine (70.7%) patients had epigastria tenderness, 36 (87.8%) had a sign of peritonitis, see table 1.

Table 1: Basic Laboratory Investigation

<table>
<thead>
<tr>
<th>WBC count</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMN</td>
<td>7.60</td>
<td>94.00</td>
<td>75.1568</td>
</tr>
<tr>
<td>Bands</td>
<td>0.00</td>
<td>8.00</td>
<td>3784.8</td>
</tr>
<tr>
<td>HB</td>
<td>4.60</td>
<td>18.10</td>
<td>14.5737</td>
</tr>
<tr>
<td>Platelets</td>
<td>141.00</td>
<td>767.00</td>
<td>253.7429</td>
</tr>
</tbody>
</table>

Forty (97.5%) patients had an open surgery. The approach was slightly varied from graham patch 23 (56.1%). Before sutures are tied, the adjacent omentum is brought up to the perforation with the sutures untied and laid out on the anterior surface of the duodenum and successively tied from the superior to inferior side, so as to tampon the perforation with the vascularized omental pedicle graft. The patch must be a living omental patch, and the omentum should not be strangulated. The mean size of the perforations was 5.13 mm ranging from 1 mm to 12 mm. Postoperatively, 3 (7.3%) developed wound dehiscence, 2 (4.9%) developed an intra-abdominal abscess, 12 (29.3%) had pulmonary complications and 12 (29.3%) had surgical site infections.

DISCUSSION

A perforated peptic ulcer is an emergency. Bleeding and perforation are the most common indications for emergency surgery. Many studies found a steady incidence of perforated peptic ulcers and similar to our study, the rate was stable for the number of cases between 7-15 per year. In our study, the mean age was 41 years which is similar to Bin-Taleb et al, which has a mean age of 39 years. Male preponderance is similar to the international numbers. In our study, 31% of the patients had a history of peptic ulcer disease compared to other studies where 10-32% of the patients had no history of peptic ulcer disease. Smoking (20%) and NSAID (14.3%) were recorded in this study which is similar to other studies from different regions.

Severe, sudden-onset epigastric pain or generalized pain might indicate perforated peptic ulcer. The peritonitis resulting from acid exposure can present as abdominal board-like rigidity. Only two-thirds of patients present with frank peritonitis, which might partly explain the diagnostic delay in some patients, while 87% of our patients presented with peritonitis.

Laboratory markers are not diagnostic for perforated ulcers. However, they do help to estimate the inflammatory response and assess organ function.

Duodenal perforation is the most common cause of pneumoperitoneum. An upright abdominal radiograph is easy or an erect chest radiograph could be diagnostic. However, its sensitivity is only 75% and it might not show the exact cause of pneumoperitoneum. In our study, 71% of the patients had air under diaphragm in an erect chest X-ray. The use of omental pedicle and closure with interrupted sutures was the main procedure for several decades. The procedure in our study was varying from graham patch (56.1%) to modified graham patch (43.9%). The postoperative complication rates varied between 7.5% and 30% in different studies. In our study, 7.3% developed wound dehiscence, 4.9% developed an intra-abdominal abscess, 29.3% had pulmonary infection and 29.3% had surgical site infections, which is similar to other studies.

It was challenging to retrieve the full data because of the retrospective nature of the study. The short mean follow-up period would not allow categorical statement on the outcome. A randomized prospective study would be advised to address this issue in the future.

CONCLUSION

Middle-aged males were the predominant patients in our perforated peptic ulcer cohort. The majority of the patients do not have known risk factors. Thirty-six (87.8%) patients had peritonitis on examination, and the diagnosis could be confirmed in 30 (73.2%) by finding air under the diaphragm in an erect chest X-ray. Forty (97.5%) perforated duodenal ulcer were repaired by open surgery.

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REFERENCE