



A CASE SERIES DEPICTING PATHOLOGICAL PRESENTATION OF PERFORATED GIANT GASTRIC ULCER AND EMERGENCY TREATMENT MODALITY

Dr. Dhanesh Kumar

MBBS, MD (Pathology) Department of Pathology, Jawaharlal Nehru Medical College, Bhagalpur – 812001, India.

ABSTRACT

Aim: To study and assess pathological presentation of Giant gastric ulcer and clinical outcomes of various modes of treatment for perforated giant gastric ulcer in an emergency setting.

Methods: From Feb 2014 to Feb 2019, 20 cases of perforated giant gastric ulcer (> 2 cm) were operated on in an emergency setting. All the patients presented with features of peritonitis and were resuscitated aggressively before taking for surgery. In the first 4 cases, primary closure was done after taking a biopsy and among these, the 3rd case also underwent partial distal gastrectomy and gastrojejunostomy and the 4th case underwent a radical subtotal gastrectomy with D2 lymphadenectomy and gastrojejunostomy for malignancy. All the remaining 16 cases underwent partial distal gastrectomy and gastrojejunostomy.

Results: Among the first 4 cases, 2 had an uneventful recovery and were discharged on the 6th postoperative day. The 3rd and 4th patients developed gastric fistula, leading to prolonged hospitalization. For the 3rd patient, conservative management was tried for 1 wk, followed by partial distal gastrectomy and gastrojejunostomy, and he was discharged on the 20th day after admission, while the 4th patient underwent a radical subtotal gastrectomy with D2 lymphadenectomy and gastrojejunostomy. Postoperatively, he developed adult respiratory distress syndrome, multiorgan dysfunction syndrome and expired on the 3rd postoperative day of the second surgery. All the remaining 16 patients underwent partial distal gastrectomy and gastrojejunostomy and recovered well. Among these, 4 of them were malignant and the remaining were benign ulcers. All had an uneventful recovery. The percentage of malignancy in our series was 30% (6 out of 20 cases). In our study, 86% had an uneventful recovery, complications were seen in about 10%, and mortality was about 5%.

CONCLUSION: In giant gastric ulcer, the chances of malignancy and leak after primary closure are high. So, we feel that partial distal gastrectomy and gastrojejunostomy is better.

KEYWORDS : Giant; Gastric; Ulcer; Primary closure; Partial gastrectomy; Biopsy

INTRODUCTION

Giant gastric ulcer is defined as an ulcer greater than 2 cm in diameter. It is usually found along the lesser curvature at incisura angularis. It is considered more prone for perforation because of the large size and is more likely to be malignant, especially when associated with scalloped margins and loss of rugal folds around ulcer. These ulcers were traditionally treated by primary closure after taking a biopsy as it was presumed that patients would not tolerate gastrectomy in an emergency setting as the time taken is longer and prolonged anesthesia is contraindicated in compromised patients. In this paper, we have compared primary closure with partial gastrectomy and gastrojejunostomy for perforated giant gastric ulcer in an emergency setting.

MATERIALS AND METHODS

From Feb 2014 to Feb 2019, we operated on 20 cases of perforated giant gastric ulcer (> 2 cm, Figure 1A) in an emergency setting. All patients were > 45 years of age, 15 males and 5 females. All patients presented with features of peritonitis with diffuse tenderness and abdominal guarding. All patients had tachycardia and 2 had hypotension. There were no significant abnormalities of the respiratory system. Plain X-ray of erect abdomen revealed gas under the diaphragm. All patients had a past history of several episodes of pain in the upper part of abdomen and were taking proton pump inhibitors. Except for leucocytosis with raised neutrophils, routine blood tests were normal. The renal parameters were slightly elevated.

All patients were resuscitated aggressively with crystalloids until the urine output was at least 30 mL per hour before being taken for surgery. In the first 4 cases, we performed primary closure after taking a biopsy as we thought that the patients would not tolerate gastrectomy in an emergency setting as the time taken is longer and prolonged anesthesia is contraindicated in compromised patients. The 3rd and 4th patients developed gastric fistula, leading to prolonged hospitalization.

In the 5th patient, when we opened the abdomen, we strongly suspected a malignant ulcer as margins were scalloped and there was a loss of rugal folds around ulcer and enlarged lymph nodes. Due to the bad experience of the previous patient, we decided to do a partial distal gastrectomy and gastrojejunostomy (Figure 1B). The patient recovered well, the biopsy report came as adenocarcinoma and chemotherapy post surgery was given.

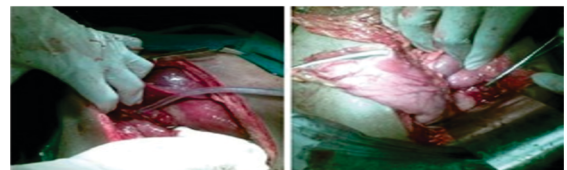


Fig 1. A: Perforated giant gastric ulcer; B: Stomach mobilized and divided at pyloroduodenal.

Junction and duodenal stump closed by suture Postprocedural management: the 3rd and 4th patients developed gastric fistula, leading to prolonged hospitalization. For the 3rd patient, conservative management was tried for 1 wk, followed by partial distal gastrectomy and gastrojejunostomy when the oral feeds continued to come through the drain. He was discharged on the 20th day after admission.

The 4th patient underwent a radical subtotal gastrectomy with D2 lymphadenectomy and gastrojejunostomy on the 4th postoperative day when the biopsy report came back as a malignant ulcer. Postoperatively, he did not come out of anesthesia, was on ventilator, later developed adult respiratory distress syndrome (ARDS), multiorgan dysfunction syndrome (MODS) and expired on the 3rd postoperative day after the second surgery.

After this, we have done partial distal gastrectomy and gastrojejunostomy for 15 more patients, 4 of them malignant and the remaining benign ulcers, and all had an uneventful recovery. The malignant cases (6 out of 20) were also given postoperative chemotherapy. Uneventful recovery was used to assess clinical outcome in our study.

RESULTS

Among the first 4 cases, 2 had an uneventful recovery and were discharged on 6th postoperative day (Table 1). The 3rd and 4th patients developed gastric fistula, leading to prolonged hospitalization. For the 3rd patient, conservative management was tried for 1 wk, followed by partial distal gastrectomy and gastrojejunostomy, and he was discharged on the 20th day after admission, while the 4th patient underwent a radical subtotal gastrectomy with D2 lymphadenectomy and gastrojejunostomy (Table 3). Postoperatively, he developed ARDS, MODS and expired on the 3rd postoperative day of the second surgery.

All the remaining 16 patients underwent partial distal gastrectomy and gastrojejunostomy and recovered well. Among these, 4 of them were malignant and the remaining benign ulcers. All had an uneventful recovery (Table 4). The percentage of malignancy in our series was 30% (6 out of 20 cases). In our study, 86% had an uneventful recovery, complications were seen in about 10%, and mortality was about 5%.

DISCUSSION

Giant gastric ulcer is defined as an ulcer greater than 2 cm in diameter. It is usually found along the lesser curvature at incisura angularis. It is considered more prone for perforation because of the large size and is more likely to be malignant, especially when associated with scalloped margins and loss of rugal folds around ulcer. Most giant ulcers occur beyond the middle span of life (all our patients were > 45 years of age). Indeed, the long history of most of these patients requires that they no longer be in the younger age group. The preponderance of males is in agreement with the usual sex distribution of gastric ulcer disease. About half of the ulcers were in the antrum and half in the body. The frequency of massive bleeding and perforation indicates that giant ulcers are not immune to the usual complications of gastric ulcer disease.

The concept that giant gastric ulcers are most often benign presents the patient with an altered prognosis and makes an aggressive surgical attitude towards such a lesion even more important. Delay in seeking surgical care is to be discouraged because of the poor response to medical management. Undue delay in exploration is no longer justified in a giant ulcer simply because of fear that an inoperable carcinoma will be found. On the contrary, all such patients should be subjected to exploration as soon as possible with the expectation that beneficial results may be obtained in a large percentage of these patients.

We have shown that with prompt treatment, nearly 86% had uneventful recovery, complications were seen in about 10%, and mortality was about 5%. Furthermore, the chances of malignancy and leak after primary closure of giant gastric ulcer is high, so we feel partial distal gastrectomy and gastrojejunostomy is a better option, even in an emergency setting if the expertise is available. In conclusion, the chances of malignancy and leak after primary closure of giant gastric ulcer is high, so we feel partial distal gastrectomy and gastrojejunostomy is a better option, even in an emergency setting if the expertise is available.

REFERENCES

1. Lulu DJ. Benign giant gastric ulcer. *Am Surg* 1971; 37: 357-362 [PMID: 5578526]
2. Cohnl, SARTIN J. Giant gastric ulcers. *Ann Surg* 1958; 147: 749-758; discussion 758-759 [PMID: 13521694 DOI: 10.1097/0000658-195805000-00020]
3. Ferris DO. Gastric cancer. *J La State Med Soc* 1953; 105: 211-216 [PMID: 13053058]
4. Lumsden K. The problem of the giant gastric ulcer. *Gastroenterologia* 1950-1951; 76: 89-93 [PMID: 14813383 DOI: 10.1159/000199136]
5. Smith FH, Boles RS, Jordan S M. Problem of the gastric ulcer viewed: study of one thousand cases. *J Am Med Assoc* 1953; 153: 1505-1508 [PMID: 13108635 DOI: 10.1001/jama.1953.02940340007003]
6. Haddad W, Kestenbaum D J, Wang H S. Effect of cimetidine on healing and

surgical treatment of gastric ulcers. *Am J Surg* 1985; 149: 665-667 [PMID: 3993850 DOI: 10.1016/S0002-9610(85)80151-3]

7. Kukral JC. Gastric ulcer: an appraisal. *Surgery* 1968; 63: 1024-1036 [PMID: 4871797]
8. Zollinger RM, Watman RN, Denkwalter F. Should all gastric ulcers be treated surgically. *Gastroenterology* 1958; 35: 521-527 [PMID: 13598043]