



GASTRIC PERFORATION AS A RESULT OF CANDIDA ALBICANS INFECTION- A RARE ENTITY

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ABSTRACT

Introduction: Fungal microorganisms are unusually rare cause of gastric and duodenal perforation. Most of the cases of gastroduodenal perforation occur as complication of peptic ulcer diseases (PUD), regular use of non-steroidal anti-inflammatory drugs (NSAID) and gastric cancer.

Cases: Here we are reporting two cases of 40 and 50 years old male patients who presented with similar history of sudden onset pain in epigastric region for 10-12 days with history of intake of NSAID for more than 2 year . An emergency exploratory laparotomy was done for peritonitis and gastric perforation was repaired by modified Graham's repair. The wedge biopsy was taken from the gastric perforation site which revealed Candida growth. Postoperative period was uneventful. Patients treated with antifungal drug Fluconazole and discharged from hospital. In follow up of 2 months , patient doing well.

Conclusion: When upper gastrointestinal perforation is seen in an middle aged or elderly patient, it is necessary to consider not only malignant disease or ulcer but also opportunistic infection such as Candida infection to reduce the significant morbidity and mortality.

KEYWORDS : Gastric perforation, Candida albicans, Fluconazole, peptic ulcer diseases.

INTRODUCTION

Peptic ulcer disease (PUD), nonsteroidal anti-inflammatory drugs and gastric neoplasms can commonly cause duodenal and gastric perforation.[1] Though *Candida* species are regarded as normal commensals of the gastrointestinal tract, infections of the gastrointestinal tract do uncommonly and have been reported as very rare pathology of gastric perforation, commonly encountered in immunocompromised and debilitated patients as well as in healthy persons who indulge in habitual use of strong antacids..[1.2] Here we are reporting a case of gastric perforation caused by *Candida albicans* and was managed successfully.

CASE PRESENTATIONS

A 40 and 55 years old male patients presented in surgery emergency ward with history of abdominal pain for 10-12 days with nausea and vomiting intermittently. Patients gave a history of chronic alcoholism and smoking since 15 years and NSAID intake for 2 years. Both patients also gave history of dyspepsia for last 10 years for which he was taking antacid on and off. On

admission, patients was evaluated clinically and radiologically. One patient was having tachypnea(36/min), tachycardia (116 beats/min.), fever and hypotension. On abdominal examination, tenderness and guarding was present all over abdomen with absent bowel sounds on auscultation. X-ray abdomen in erect view demonstrated gas under right hemidiaphragm. Similar findings were revealed in other patient. Regarding investigations Whole Blood Count was 10,400/cumm with 81% neutrophils and 12000/cumm in other patient, Haemoglobin -10.2 gm/dl, 11gm/dl, Sodium- 138 mmol/L, 140mmol/L, Potassium- 4.1 mmol/L.3.2mmol/L. After resuscitation with intravenous fluids and under cover of injectable antibiotics, emergency laparotomy was planned. Proper informed consent was taken from the patients . Abdomen was opened by midline vertical incision . About 1.5 litres of bilious fluid was drained out. The operative finding revealed a gastric perforation of size 0.5 cm x 0.5 cm in the area of antrum of stomach and was repaired with modified Graham's repair (figure no.1) Peritoneal washings were given with almost 10 litres of normal saline.

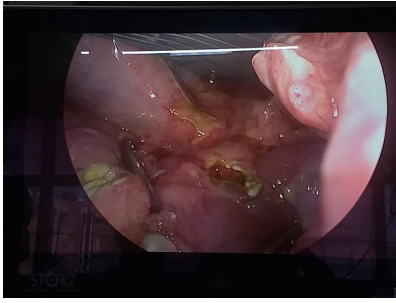


FIGURE 1 showing gastroduodenal perforation in a 40 years old male patient

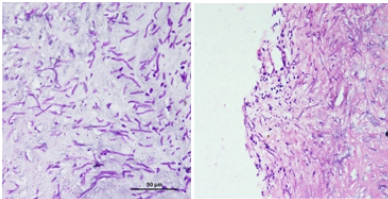


FIGURE 2 Histopathological examination showing the presence of Candidial pseudo hyphae spores hyphae

A wedge biopsy from the perforation site was taken and tissue was sent for histopathological examination, as the suspicion of malignancy was there. Histopathological examination revealed the presence of Candidial pseudo hyphae spores hyphae. Periodic Acid Schiff's (PAS) staining showed a positive staining in these pseudo hyphae suggestive of a Candida infection (figure.2). No bacterial and fungal was found in culture of peritoneal fluid. Postoperative period was uneventful.

Patients were started on intravenous Fluconazole 200mgs for 10 days. Both patients were discharged with advice of oral anti-fungal Fluconazole 150 mg once daily for 2 weeks. Follow up in OPD was done upto 2 months and both patients did well.

DISCUSSION

Candida albicans is a ubiquitous fungus and rarely pathogenic in gut. In most cases, *Candida* infection develops as an opportunistic infection in immunocompromised patients. A fungal growth is encouraged by certain pH levels. Some reports indicated that pH of 5-6 in the stomach is suitable for *Candida* proliferation. So the patient who regularly used antacids patients are at increased risk. In our case, patient had a history of regular use of antacids and alcohol which might have been predisposing factor for gastric perforation associated with *Candida* infection. In one study, gut mycosis was observed in 109 (4.35%) of the 2517 total cases which were studied from 1960-1964(3). In Japan, Tsukamoto et al., reported that gut mycosis was present in 196 (5.9%) of the 3,339 cases which were reported from 1971 to 1983(4). In these reports, the most commonly effected organ was the oesophagus, followed by the stomach, the small intestine and the large intestine(3,4). Minoli et al, reported that stomach candidiasis was seen in 0.96% of the upper intestinal endoscopies(5).

Scotts et al reported that the disruption of the stomach mucus membrane was sufficient to cause gastric candidiasis(6). On other hand, Nelson et al and Minoli et al reported that some cases of idiopathic stomach candidiasis in which there was no underlying disease(7,8). Kamiya et al reported that *Candida* secondarily invaded and proliferated in the ulcer base in most cases(9). It is difficult to determine whether the gut candidiasis is idiopathic or secondary, because *Candida* species are part of normal flora of gut in a healthy person. Under normal circumstances the level of *Candida* are controlled by beneficial bacteria. However, if the bacterial-fungal balance is upset by usage of antibiotics or if the immunosystem is compromised, an overgrowth of *Candida* can occur resulting in an infection(1). In our cases the patient presented

with shock and acute abdominal pain and X-ray shows gas under right hemidiaphragm suggesting gastrointestinal perforation. An exploratory laparotomy done which revealed gastric perforation. It was repaired by modified Graham's repair. Postoperative period was uneventful. After biopsy and culture report, patient was kept on iv 200mg fluconazole for 5 days, then tab Fluconazole 150 mg once daily for months.

CONCLUSION

The clinical recognition and effectiveness of management of fungal infection in surgical setting is challenging and require multistep diagnostic to make diagnosis. Secondly, the study underlines the importance of histological examination which helps in further management.

We suggest that every case of gastroduodenal perforation should undergo biopsy while keeping in back of mind about the variety of disease with the help of the biopsy and histopathological examination diagnosis, management gets changed.

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