

A Rare Case of Gastric Perforation By Candida Albicans: A Case Report

Md. Mukhtar Naved¹, Nishant¹, Asim A. Minj¹, Shital Malua²

ABSTRACT

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

Case report: Here we are reporting a 70 years old male presented with severe abdominal pain in epigastric region without any history of use of NSAIDs, peptic ulcer disease and gastric neoplasm. An emergency exploratory laparotomy done and gastric perforation discovered and repaired by modified Graham's repair. The gastric perforation wedge biopsy revealed Candida growth. Postoperative period was uneventful. He was treated with antifungal drug Fluconazole and discharged from hospital.

Conclusion: When upper gastrointestinal perforation is seen in an 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 mortality.

Keywords: Gastric perforation, Candida albicans, Fluconazole.

INTRODUCTION

Perforation peritonitis is one of the most common presenting complaints in surgical emergency. *Candida albicans* is a ubiquitous fungus present in healthy individual and is normal commensal of the gastrointestinal tract. Candida infections generally developed in immunocompromised hosts with malignant tumours, diabetes and those patients who have been on long term steroid, non-steroidal anti-inflammatory drugs (NSAID) or any immunosuppressant drugs.¹ Candida infection of gastrointestinal tract is rare as its pH is low but following long-term use of antacids, Candida infection found in gastric ulcer in healthy person. Gastric perforation caused by *Candida albicans* is very rare and it is seen mainly in immunocompromised and debilitated patients. Here we are reporting a case of gastric perforation caused by *Candida albicans*.

CASE REPORT

A 70 years old male presented in emergency ward of the present institution with abdominal pain for 5 days with vomiting on and off. On admission he had the septicemic features of paleness, tachypnea, tachycardia (116 beats/min.), fever and hypotension. On abdominal examination, tenderness and guarding was present all over abdomen with absent liver dullness. The chest X-ray and X-ray abdomen in erect view demonstrated gas under right hemidiaphragm. His WBC was 15,400/cumm with 81% neutrophil. Haemoglobin 10.2 gm/dl, Sodium 138 mmol/L, Potassium 4.1 mmol/L, Bicarbonate 20 mmol/L. After resuscitation with intravenous fluids and under cover of injectable antibiotics, emergency laparotomy was done in which a perforation of size 0.5 cm x 0.5 cm was found in antrum of stomach and repaired with modified Graham's repair.

A perforation edge biopsy was done and tissue was sent for histopathological examination. 2.5 litres of bilious fluid was aspirated and sent for culture. Histopathological examination revealed the presence of fungal hyphae (figure-1). Periodic Acid Schiff's (PAS) staining showed a positive staining in these pseudohyphae suggestive of a *Candida* infection. Culture of fluid revealed colonies of *Candida albicans* (figure-2). No bacterial culture was done. Postoperative period was uneventful. Patient was discharged on day 10 with advice of anti-fungal Fluconazole 150 mg once a week for 8 weeks.

DISCUSSION

Candida albicans is an ubiquitous fungus and rarely pathogenic in gut. In the most cases, *Candida* infection develops as an opportunistic infection in immunocompromised patients. A fungal growth is encouraged by certain pH level and by the availability of sugar. So the patient who regularly used antacids and diabetic patients are at increased risk. Some reports indicated that pH of 5-6 in the stomach is suitable for *Candida* proliferation. In our case, patient had a history of regular use of antacids which might have been predisposing factor for gastric perforation associated with *Candida* infection. In one study which was done by Ears et al., gut mycosis was observed in 109 (4.35%) of the 2517 total cases which were studied from 1960–1964.² 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 1983.³ In these reports, the most commonly effected organ was the oesophagus, followed by the stomach, the small intestine and the large intestine.^{2,3} Minoli et al., reported that stomach candidiasis was seen in 0.96% of the upper intestinal endoscopies.⁴ Scotts et al reported that the disruption of the stomach mucus membrane was sufficient to cause gastric candidiasis.⁵ On other hand Nelson et al⁶ and Minoli⁷ et al reported that some cases of idiopathic stomach candidiasis in which there was no underlying disease. Kamiya et al reported that *Candida* secondarily invaded and proliferated in the ulcer base in most cases.⁸ It is difficult to determine whether the gut candidiasis is idiopathic or secondary, because *Candida* species are part of normal flora of gut in healthy person. Under normal circumstances the level of *Candida* are controlled by beneficial bacteria. However, if the

¹Junior Resident, ²Associate Professor, Department of General Surgery, Rajendra Institute of Medical Sciences, Ranchi, Jharkhand, India

Corresponding author: Dr. Md. Mukhtar Naved, Room No. 42, Boy's Hostel No. 5, RIMS, P.O. – R.M.C.H., Ranchi-834009, Jharkhand, India

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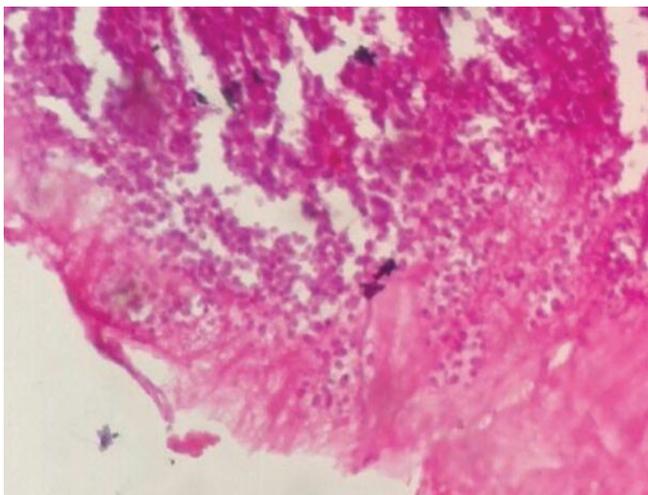


Figure-1: Histopathological examination showing fungal hyphae (H and E x 400)

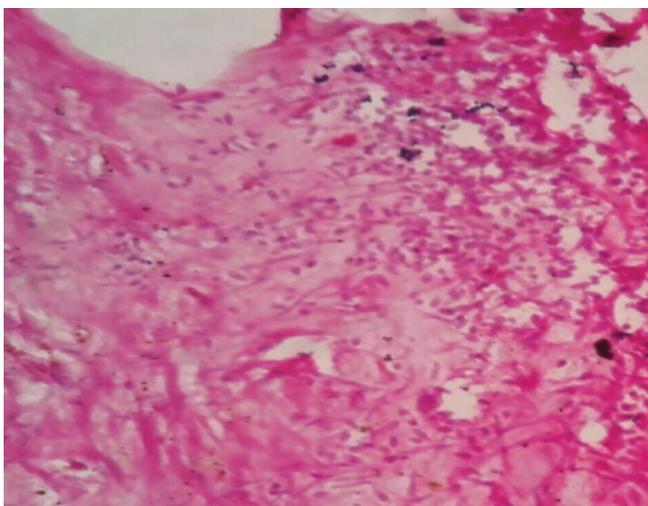


Figure-2: Light microscopy showing fungal hyphae (PAS stain x 40)

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.⁹

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, tablet Fluconazole 150 mg once a week started for 2 months.

CONCLUSION

Here we experienced a rare case of gastric perforation associated with *Candida* infection. The fungal infection should always be kept in mind as aetiology for gastric perforation, as early detection is necessary to treat *Candida* infection. So, when upper gastrointestinal perforation is seen in an elderly patient, it is necessary to consider not only malignant disease for ulcer but also opportunistic infection such as *Candida* infection to reduce the significant mortality.

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