

## **A Study of Incidence and Significance of Intraoperative Peritoneal fluid Fungal Culture in Patients with Perforated Peptic Ulcers**

Mahim Koshariya, Surabhi Garg, Anshul Siroliya, Abhishek Shitole, Rakesh Pandey, Amit Katlana, Arvind Rai

Department of Surgery, Gandhi Medical College and Hamidia Hospital Bhopal, India

### **Abstract**

**Background:** Although the incidence of peptic ulcer disease has reduced, the peptic ulcer perforation rates remain constant. Till recently the emphasis has been placed on the identification of microbial flora associated with peritonitis caused by perforated peptic ulcer. The aim of this study was to determine the incidence and significance of intraoperative peritoneal fluid culture of fungus in patients with perforated peptic ulcers.

**Materials and method:** In this study, we included 53 patients with intraoperatively confirmed perforated gastroduodenal ulcers admitted in our hospital. Patients were evaluated pre-operatively; intra-operative peritoneal fluid specimen was sent for culture & sensitivity; post-operative records of various parameters were studied; patients' morbidity and mortality were evaluated with reference to their culture outcome.

**Results:** Fungal cultures of peritoneal fluid were positive in 24 out of 53 patients (45.2%), Candida being the most common isolated species in 22 patients (91.6%), followed by *Aspergillus*. Fungal cultures were found positive more commonly in patients above 50 years of age and in females. Age, preoperative organ failure, delay in operation, high Mannheim Peritonitis Index (MPI) and Acute Physiology And Chronic Health Evaluation (APACHE) II scores, smoking, alcohol abuse, steroid use, H2 blockers and preoperative antibiotic therapy were risk factors for a positive fungal culture. MPI of 20 or more was statistically significant ( $p < 0.001$ ). Increased morbidity was observed in fungal peritonitis patients in comparison to non-fungal peritonitis cases. The Candida peritonitis group had a mortality of 18.18%, while the mortality in the non-Candida peritonitis group was 3.44%.

**Conclusion:** Fungal positivity was a significant risk factor for adverse outcome in patients with a PPU. Patients with associated risk factors and a MPI score  $>24$  and APACHE II score of  $>12$  with positive intra-operative peritoneal fluid fungal culture can be considered for early antifungal treatment.

**Key words:** perforated peptic ulcer (PPU), positive peritoneal fungal culture, candida peritonitis, antifungal therapy