

Implications of Bacteriological Study in Perforated Peptic Ulcer Peritonitis

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Abstract

Background: In the setting of perforated peptic ulcer (PPU) peritonitis, empiric antimicrobial therapy is initiated perioperatively and adapted according to the culture sensitivity. The aim of the study is to describe the microbiota found in the peritonitis due to a PPU, and to evaluate the predictors for bacterial or fungal infection.

Material and methods: We performed a single-centre, retrospective observational study of all consecutive patients who presented with PPU peritonitis and underwent emergent surgery in Saint Pierre University Hospital, Brussels, Belgium, between January 2013 and December 2020. The medical history, parameters at admission, bacterial culture, antibiotic resistance and postoperative outcomes were analysed.

Results: A total of 43 patients were included in the study. The microbiological culture rate was positive in 31% (13/43) patients. The bacterial culture revealed that the most frequently isolated bacteria were *Klebsiella* spp. and *Enterobacter* in 7 % (3/43) of the patients, while the most prevalent fungus isolation was *Candida* spp. in 16.7 % (7/43) patients. The most prevalent resistances were against ampicillin (17.1 % [7/43]). The Charlson Comorbidity Index was an independent predictor for bacterial infection.

Conclusion: *Candida* spp., *Klebsiella* spp. and *Enterobacter* were the most common organisms isolated in the setting of PPU peritonitis.

Key words: perforated ulcer, bacterial flora, antibiotics