

## **Bacterial epidemiology and antimicrobial resistance in ascitic fluid in cirrhotic patients between 1988 and 2016 at the University Hospital of Brest (France)**

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### **ABSTRACT**

#### **Background and aims:**

Spontaneous bacterial peritonitis (SBP) is the most typical infection and a common complication in cirrhotic patients with ascites. SBP has a poor prognosis with a one-year survival rate from 30 to 50% after the first episode, and an in hospital mortality below 30%. Recent studies showed the emergence of resistant bacteria leading the failure of first line antibiotic therapy. The aims of the present study were: a) to describe bacterial epidemiology and antimicrobial resistance in ascitic fluid in cirrhotic patients over time between 1988 and 2016, b) to evaluate their impact on 30-day mortality.

#### **Methods:**

We conducted a retrospective study including 152 cirrhotic patients with SBP diagnosed on cytological criteria, between 1988 and 2016 in our center. Multivariate logistic regression was used to study predictors of 30-day mortality on overall population and from 1988 to 1999 vs 2000 to 2016.

#### **Results:**

The mean age of patients was 60.1 years and 81% of patients were male. 80.1% of patients were C of Child-Pugh classification. The distribution of the isolates was the following: 44.4% Gram-negative with predominance of *Escherichia Coli* (n=51) 22.5% Gram-positive bacteria with predominance of *Streptococcus* (n=24), with no significant differences between the two periods. Regarding bacterial resistance, there were 0.7% (n=1) multi resistant bacteria (ESL producing *E coli*), 17.9% of quinolones resistant bacteria, 4.6% of third generation cephalosporines resistant bacteria, and 11.8% of amoxicillin-clavulanate-resistant bacteria, with no significant differences between the two periods. Eight percent of patients received prophylaxis, primarily norfloxacin. Acute kidney injury was the major predictor of 30-day mortality in overall population and considering each period. We also found that low blood pressure at admission, gastrointestinal bleeding, prothrombin time and Child-Pugh C score were independent risks factors of short term mortality. There was no impact of epidemiological changings or resistance on 30-day mortality.

#### **Conclusion:**

Our study show relative epidemiological changes in bacteria isolated SBP in our center over a 28-year period, however a relatively low proportion of multi resistant bacteria as compared with results from other centers in France and in Europe. Our results confirm the prognostic role of acute kidney injury during SBP episodes and the beneficial effect of albumin infusion. We failed to show an impact of epidemiological changings or resistances on mortality but preventing measures should be applied as suggested in recent studies with higher resistances rate.

**Biography:**

Dr. Bertrand is a Member of the French National Society of Gastroenterology, Member of the French Society of Digestive Endoscopy, and Former Member of the American Gastroenterological Association. He is well experienced as a Doctor in Hepato-gastroenterology Center Brest 1989 - Present (27 years). He is a Former intern in Hospitals, Former head of clinic Universities, Practitioner Consultant in CHU Brest, Gastroenterology, Digestive interventional endoscopy, Hepatology, Endoscopy Bilio-pancreatic Digestive cancer, Nutrition, Medical and surgical proctology, Training.

**His Skills and expertise include:**

Hepato-gastroenterology,  
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**Honors and Awards**

European fellow of gastroenterology  
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