BLOODSTREAM INFECTIONS (BSI) IN CANCER PATIENTS: EPIDEMIOLOGY, ANTIBIOTIC THERAPY AND RISK FACTORS RELATED TO MORTALITY

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Background
BSIs are a frequent and severe complication in cancer. Recent changes in oncological treatment, supportive care and development of new antimicrobial therapies could have affected its epidemiology, management and outcomes. Our aim is to describe clinical and microbiological features, antibiotic therapy, outcomes and mortality-related risk factors of BSI in cancer patients.

Methods
We performed a retrospective, observational, unincentric study. Microbiologically-confirmed BSI episodes in patients between January 2017 and December 2021 were collected. We analysed clinical and microbiological data, empirical antibiotic treatment (EAT) and outcomes. A binary logistic regression model was used to detect variables related to 7 and 30-days mortality. P values <0.05 were considered significant.

Results
438 episodes of BSI were documented in 362 patients (59.4% male). 78.1% patients had metastatic disease and 72.1% had received chemotherapy in the previous month. Mortality at 7 and 30 days was 11.2% and 24.4%, respectively.

Conclusions
→ BSI is a severe complication associated to elevated mortality in cancer patients.
→ Most frequent sources of BSI are vascular catheters, cholangitis and abdominal infections. Most of them occur in patients with metastatic digestive tumours and are caused by GNB. Gram-positive coccus as S. aureus and coagulase-negative Staphylococci are a frequent cause as well.
→ Respiratory infections and Pseudomonas spp. Seem to imply a worse prognosis, while empiric amoxicillin/clavulanic treatment could be a protective factor.

Microbial Isolation

- Gram-negative bacteria (GNI) were isolated in 60.2% of cases and Gram-positive bacteria in 45.4%. Yeasts were isolated in 3.9% of cases. 12.1% of cases were polymicrobial BSI.

- Empirical antibiotic treatment was given to 76.1% of patients.

Significant variables associated to 7 and 30-days mortality in binary logistic regression model

- Male
- Breast cancer
- Lung cancer or mesothelioma
- Pancreaticobiliary cancer
- Renal cancer
- Urothelial carcinoma

Relative risk

- 0.72
- 1.27
- 2.67
- 3.13
- 5.91
- 6.43
- 4.51

P

- 0.33
- 0.1
- 0.01
- 0.01
- 0.01
- 0.01
- 0.01

* Significant results