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Title: EMERGENCE OF BLOODSTREAM INFECTION CARBAPENEM RESISTANT IN PATIENTS HOSPITALIZED: EXPERIENCE IN A SINGLE HEMATOLOGY UNIT

Abstract Type: Publication Only

Topic: Infections in hematology (incl. supportive care/therapy)

Background:

Several studies have reported the emergence of carbapenem resistance (CR) bacteria to antibiotics (imipenem, meropenem, ertapenem) in haematology malignancy due to enzymes (KPC, NDM, VIM, IMI).

Aims:

We observed 1000 consecutive haematology patients admitted in haematology ward in Barletta Dimiccoli hospital, Italy, to study the local epidemiology and possible changes over the years.

Methods:

We analyzed in group A (years 2021-2023) blood stream infection that were 25 in total (21 gram- 84% and 4 gram+ 16%) found in 15 acute myeloid leukemia, 2 acute lymphoid leukemia, 4 non hodgkin lymphoma, 1 severe aplastic anemia and 3 multiple myeloma, while in the other group B (2020-2021 years) 26 were the total bacteremias in 22 acute myeloid leukemia, 1 acute lymphoid leukemia, 1 aplastic anemia and 1 non hodgkin lymphoma. The gram positive bacteremias were 18 (69%) and 8 were gram- (31%), the incidence to begin septic shock was 16% for gram positive and 50% in gram- in group B. In group A the septic shock happened in 52% between gram negative blood stream infections and 25% between gram positive.

Results:

In our ward we analyzed that absolute neutrophil count <500 for at least a week and shock septic by klebsiella and pseudomonas CR in patients with colonization by CR were associated with high mortality days ($p < 0.05$ and 0.04 respectively).

We observed a change of bacterial septic incidence in our ward during and after covid waves with varying increase of carbapenem resistance bacteremias and also cases (4 in total in group A) with 100% mortality for ceftazidime-avibactam and meropenem-vaborbactam that had lost efficacy towards CR gram- because carriers of NDM and VIM enzymes.

Conclusion:

During covid period, our hospital began from 2021 a covid hospital in which increased the carbapenem consumption due to a covid 19 patients experienced coinfection with carbapenemase producers.

Clinical international guidelines do not recommend the routine decolonization of CR gram negative carriers. It's critical implementing prevention strategies with personal protective equipment and washing always hands

but not always is implemented the surveillance of CR bacteria infection in hematology because not often is possible to put the patient in single room and to have dedicated nurse.

Keywords: Hematological malignancy, Infection, Causes of death