

# MONITORING OF GRAM-NEGATIVE (G-) MULTIDRUG RESISTANT (MDR) PATIENTS AT POLICLINICO UMBERTO I OF ROME WITH THE AIM OF CONTROLLING HEALTHCARE-ASSOCIATED INFECTIONS, COUNTERACTING THE PHENOMENON OF ANTIMICROBIAL RESISTANCE AND PROMOTING PROPER MANAGEMENT OF RESOURCES

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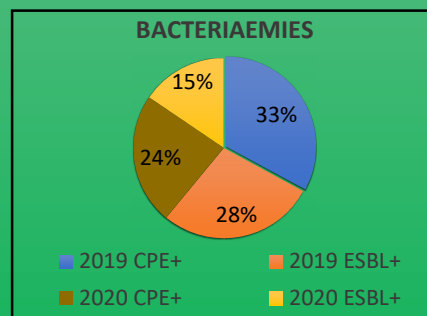
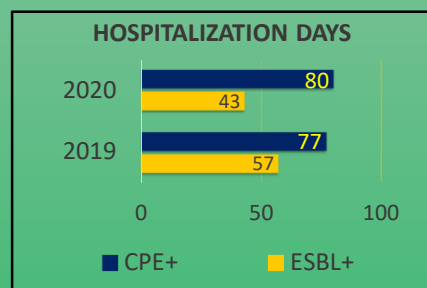
**Background and importance.** In recent years, antibiotic-resistant infections have increased significantly in Italy.

**Aim and objectives.** The polyclinic project involves a team of pharmacists, microbiologists, infectivologists and Medical Directors (MD), and aims to analyze the appropriateness of antibiotic use, starting from the control of the type of patient's infection, monitoring the G- pathogens under surveillance in Italy for the highest rates of resistance to the main classes of antibiotics.

**Materials and methods.** We started from the analysis of bacteremia and consultation of medical records related to selected patients. From the bacteremia of the biennium 2019-2020, MDR G- patients were extrapolated, which were divided into CPE+ and ESBL+ patients and classified according to pathogens. After authorization from MD it was possible to access the medical records, from which it was: detected the clinical picture; calculated the duration of therapy, hospitalization; and evaluated the outcome of treatment. The patients were then divided into five macro-areas: infectious diseases, surgery, medicine, intensive care unit (ICU) and onco-hematology. A further subdivision was made for 2020 patients as CoViD and noCoViD subjects.

**Results.** Total CPE+ and ESBL+ 2019-2020 patients are 787. For 2019, new MDR G- patients are 259 CPE+ and 221 ESBL+; for 2020, 185 CPE+ and 122 ESBL+. The average number of inpatient days is 76.8/CPE+ and 56.8/ESBL+. CPE+ patients with first bacteremia in the emergency department (ED), single hospitalization and discharge are 16/444 with average inpatient days=24. ESBL+ patients with first bacteremia at the ED, single admission-discharge are 70/343 with average inpatient days=22. The mean age of G- MDR patients is 70 years and 4 years for pediatric patients. Departments with most new cases are ICUs. Onco-hematologic patients are 11%. There isn't predominant pathogen in CoViD patients.

**Conclusion and relevance.** From the data analyzed, it is clear that MDR G- patients who received an early diagnosis at the ED and started right away with targeted antibiotic therapy had a better outcome and a clearly shorter hospital stay. Better management of infection treatment is a priority to improve clinical, safety, and economic goals. Further investigation considering antibiotics administered is needed to assess the impact that early targeted antibiotic therapy has on treatment outcome and health care cost.



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