Differences in the use of tigecycline between ICU patients and non-ICU patients


Background. Tigecycline is a new broad spectrum antibiotic that is predominantly used for the treatment of severe infections both in critically ill patients admitted to the ICU and in non-ICU patients with less severe clinical conditions.

Objective. To assess differences in the use of tigecycline between ICU patients and non-ICU patients treated with this antibiotic.

Materials and methods. Retrospective, cohort, observational study in which cases were defined as patients who received one or more doses of tigecycline over the first 18 months after approval of the drug in a general hospital. Clinical characteristics, indications, route of administration, clinical response, tolerability and outcome were recorded in the groups of ICU and non-ICU patients. Descriptive data and results of the comparison of both cohorts are presented.

Results. A total of 103 were included in the study, 34 (33%) of which received tigecycline during their stay in the ICU. ICU patients compared to non-ICU patients had a higher SAPS II score on admission (39.0 ± 11.8 vs 26.3 ± 8.0, p < 0.001) and at the time of starting tigecycline treatment (42.2 ± 12.6 vs 25.6 ± 8.2, p < 0.001), were treated with antibiotics for more days (21.4 ± 30.6 vs 13.6 ± 30.5 days, p < 0.012) and received a greater number of antibiotic agents concomitantly (85.3% vs 47.8%, p < 0.001), presented a higher selection of emerging bacterial flora (41.2% vs 15.9%, p = 0.005), particularly Pseudomonas aeruginosa (20.6% vs 2.9%, p = 0.006), higher rate of clinical failure (58.8% vs 21.7%, p < 0.001), longer hospitalization (51.2 ± 39.4 vs 28.7 ± 26.3 days, p < 0.001) and higher overall mortality rate (50% vs 14.5%, p < 0.001) and infection-attributed mortality (20.6% vs 7.2%, p = 0.047).

Conclusions. The patient that receives tigecycline in the ICU has a higher severity level and worse clinical outcome than the non-ICU patient treated with this antibiotic. It is necessary to optimize the indications of tigecycline in the ICU to improve the clinical results.