APPROPRIATENESS OF ANTIMICROBIAL THERAPY IN PATIENTS WITH HEALTH-CARE ASSOCIATED BACTEREMIA

E. Van Hauwermeiren[1], P. Lanza[1], A. Zoncada[1], S. Lorenzotti[1], F. Zacchi[1], C. Fornabaio[1], L. Galli[2], M. Fornaciari[2], **A. Pan**[1]

[1]Infectious and Tropical Diseases, Istituti Ospitalieri di Cremona, Cremona, Italy ; [2]Medical Direction, Istituti Ospitalieri di Cremona, Cremona, Italy

Objectives

In patients with sepsis, early correct antibiotic therapy is a mainstay to ensure patients' survival. The object of this study was to evaluate the appropriateness of antibiotic therapy in hospitalised patients with health-care associated microbiologically confirmed sepsis at the hospital of Cremona, Italy, in the first quarter of 2012.

Methods

The study was conducted at the hospital of Cremona, a 500 bed community hospital. We retrospectively gathered data about patients who had a health-care associated bacteremia (HCA-B), i.e. onset after >48 hours since hospital admission, during the first quarter of 2012. We evaluated the appropriateness of antibiotic therapy, according to clinical data, local antimicrobial treatment guidelines, isolated microorganisms and their antibiotic susceptibility. Appropriateness was stratified into 5 categories (correct decision, incorrect decision, incorrect choice, incorrect use, missing data) as previously defined by Gyssens.

Results

During the first semester of 2012, 80 patients were identified with HCA-B, 60% of whom were males. Median age was 74 years (interquartile variation 69-85). Mortality was 15%. Most HCA-B were identified in the general medical ward (18 cases, 23%), nephrology (10, 13%), oncology (9, 11%), and general surgery (7, 9%). A combination therapy was administered to 31 patients (39%): in 23 cases 2 antibiotics, in 7 three and in 1 four. The most commonly prescribed first line antibiotics were ceftriaxone (19 patients, 24%), a quinolone (20 patients, 25%), meropenem (23, 29%), piperacillin-tazobactam (16, 20%), vancomycin (18, 23%). The most frequent combination treatment was vancomycin plus meropenem (10, 12%); fluconazole was prescribed, always within combination regimens, to 7 patients (9%). In the remaining 21 patients with combination therapy, 12 different schemes were used.

First line empirical treatment was considered appropriate in 45/80 patients (56%) while the choice was considerate incorrect in 35 cases (44%), in 33 cases because it was not consistent with local guidelines. Antibiogram driven antibiotic treatment was appropriate in 80% of patients. Appropriateness varied among the different wards between 50 and 67%. Appropriateness was similar in surviving patients (36/67, 54%) , and among those who died (8/12, 67%) (p=0.43).

Conclusion

In a cohort of patients with HCA-B antimicrobial empirical prescription is often inappropriate. Higher levels of appropriateness are reached when the antibiogram is available, but a significant proportion of patients still receive an inappropriate treatment. Combination therapy is often used, and a too wide variety of schemes are prescribed. An antimicrobial stewardship program would be important in the management of patients with hospital acquired bacteremia in particular aiming to improve first line choice and to control combination antimicrobial therapy.