

Prospective audit of piperacillin-tazobactam prescriptions in a university hospital

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Background

Varying from 30% to 50% depending on the study, the high rate of inappropriate prescriptions of anti-infectives is a cause for concern (1). These inappropriate prescriptions contribute to antibiotic resistance, and hence to the very gloomy mortality projections of 10 million deaths per year, which would be attributable to antibiotic resistance in 2050, if no action is taken (2). Prospective audit and feedback interventions is one of the strategies recommended by the Infectious Diseases Society of America to improve antibiotic use (3). This type of audit was therefore chosen for our study.

Methods

Weekly evaluation over an 11-week period of piperacillin-tazobactam prescriptions in surgical units for one of the 4 hospital sites and in all units for 3 of the 4 hospital sites of the CHU of Liège. The audit was carried out by an infectious diseases specialist and a clinical hospital pharmacist from the antimicrobial stewardship team of the CHU of Liège. The main evaluation criteria were the appropriateness of indication, spectrum and duration of the antibiotic. The minor evaluation criteria were the adequacy of notification in the medical record and whether a therapeutic drug monitoring of antibiotic was carried out when justified. Interventions involved stopping antibiotic therapy or modifying the spectrum (reduction/broadening), switching to oral antibiotic therapy and optimising of the pharmacokinetic and pharmacodynamic profile.

Results

The audit included 121 patients who had each received a prescription of piperacillin-tazobactam. 90,9% of the prescriptions were appropriate for the indication, 75,2% for the spectrum and 52,1% for the duration. Notification was adequate in 65,3% of cases and a therapeutic drug monitoring was carried out in 6 of 10 cases. Broad-spectrum antibiotics were discontinued or their spectrum reduced in 21,5% and 16,5% of cases, respectively. Switching to oral antibiotic therapy or optimising pharmacokinetics and pharmacodynamics were each suggested in 16% of prescriptions. A feedback was given to the prescriber for each file analysed.

Conclusions

For almost half the patients, the most frequent intervention concerned the inappropriate duration of antibiotic therapy. This audit is also interesting in terms of educating prescribers and providing feedback.

References

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Fungicap: knowledge, attitudes, and practices survey on prescribing antifungals by physicians in Colombia

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Background

More and more antifungal treatment options are becoming available and many of them are broad-spectrum. There are few studies on the knowledge in this regard. The study's main objective was to evaluate the knowledge, attitudes, and practices of physicians related to the prescription of antifungals in a Latin American country.

Methods

A survey of Colombian physicians knowledge, attitudes, and practice was conducted through an online or paper questionnaire (Fungicap). We performed a descriptive analysis of the main sociodemographic variables, which were related to the respondents' medical practice and the survey results. Moreover, an exploratory analysis of the association was performed between the knowledge score and sociodemographic characteristics and of the association between the knowledge score and factors concerning medical practice.

Results

285 physicians participated, with a mean age of 34.6 years, and 57.1% were men. The most frequent participating hospital services were Internal medicine (47.7%), intensive care (8%), and geriatrics (4.4%). The average knowledge score was 11.3 (SD 2.1, possible score 0-17). 87% lack knowledge about the pharmacokinetics, and 61% about the pharmacodynamics of antifungals. 63.5% have poor knowledge about the antifungal drug of choice according to the type of disease. 78% think that undergraduate education is insufficient to prescribe antifungals. There were statistically significant differences between the knowledge and the type of institution the doctor worked in.

Conclusions

The survey allowed us to identify some weaknesses in the knowledge of antifungal prescribing among Colombian physicians. There is a need to strengthen antifungal education for physicians.