INTRODUCTION

The misuse of quinolones, carbapenems and anti-MRSA agents contributes to the emergence of resistant strains, and their use should be as controlled as possible. The emergency department is a place of choice for the implementation of policies that promote the rational use of antibiotics, knowing that most hospital antibiotics are initiated empirically in these services, and are tended to be maintained during hospitalization.

Beatriz Angelo Hospital (HBA) is a paper-free hospital equipped with an electronic conditioned prescription system, which provides automatic, real-time email notifications whenever there is a mismatch between the chosen agent and the context (specific infections or prophylaxis), or whenever controlled prescription agents are prescribed (quinolones, carbapenems, anti-MRSA agents, among others), allowing the rapid onset of antibiotic stewardship measures (see Fig 1).

PURPOSE

To assess the use of conditioned antibiotics in patients admitted to the General Emergency Service (SUG) of the HBA, based on sampling for the months of March of 2014, 2015 and 2016.

METHODS

Retrospective analysis of automatically generated notifications in the context of prescription for conditioned antibiotics in the referred period (see Fig 1).

RESULTS

In the reviewed period, the prescription system generated the following notifications in the three consecutive years: Quinolones: n = 76, 48 and 29 (62% reduction between 2014 and 2016); Carbapenems: n = 36, 40 and 20 (44% reduction); Anti-MRSA agents: n = 13, 9 and 3 (77% reduction) (see Graph 3).

Referrals for hospitalization were 122, 130 and 147 (7% increase between 2014 and 2016).

Levofloxacin constituted the most prescribed quinolone representing, respectively, 59%, 65% and 72% of the total quinolones (see Graph 2).

Regarding carbapenems, Meropenem represented, respectively, 50%, 85% and 90% (see Graph 3). Finally, in regarding to anti-MRSA agents, the reports were almost exclusively from Vancomycin, respectively, 100%, 89% and 100% of anti-MRSA agents (see Graph 4).

CONCLUSIONS

In spite of the increase in the number of hospitalizations, and the increasing incidence of ESBL-producing gram negative from abroad (main limitation for the reduction of the use of carbapenems) in the period under analysis, a significant overall reduction of the initial prescription of quinolones and anti-MRSA agents and, to a lesser extent, carbapenems, was observed.

This evolution reflects the phased intervention efforts initiated with the introduction of the single dose distribution for patients hospitalized in the SUG (in the end of 2014), their respective pharmacological validation and on-site intervention. These are reinforced with the analysis of the notifications issued by the GCL-PPCIRA (Local Control Group of the Program for Prevention and Control of Infections and Resistance to Antimicrobials) under the scope of antibiotic stewardship (early 2015), along with actions of training and awareness-raising for doctors.

This work shows how it is possible, through a concerted and multiprofessional intervention, within the framework of antibiotic stewardship, to reduce in a very significant way the use of conditioned prescription antibiotics.

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PRESCRIPTION OF QUINOLONES, CARBAPENEMS AND ANTI-MRSA AGENTS IN THE EMERGENCY DEPARTMENT OF A DISTRICT HOSPITAL: INTERVENTIONS AND DEVELOPMENT OVER 3 YEARS

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