

Abstract

Analysis of antibiotic administration in prophylaxis II

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Introduction and aims: The term antibacterial prophylaxis (AP) refers to antibiotic (ATB) administration in prevention of surgical site infection (SSI). There are many factors in population which can potentially raise the risk of the incidence of SSI. The maintenance of basic rules of the AP and knowledge, influence and timely elimination of risk factors of SSI are the most important measures which can reduce a number of postoperative SSI. The aim of this study was to analyze antibiotic administration in prophylaxis in the local hospital in the Czech Republic and compare the results to well known international guidelines (ASHP-G) and latest scientific knowledge (LSK).

Methods: The cross-sectional study was conducted in October 2019. During the period from 2nd to 23rd October, the data of surgeries and used AP were collected. The patients who passed the entry criteria have been included in this study. Into prepared form, patient's identification, agreement, diagnosis, surgery type, operation date, the beginning and the end of surgery, application of AP, ATB used, its dosage, route of administration, dilution, the beginning and the end of the infusion, repeated doses and frequency of the next doses, were recorded. The information about risk factors and details of AP were searched in patient's medical documentation. The results were evaluated by descriptive statistics methods and compared to ASHP-G and LSK.

Results: The total number of participating patients was 170 (91 women and 69 men). Their average was 60.4 ± 16.1 . Orthopedic and trauma surgeries (ORT) were the most frequent (in 40.1 %). In 68.2 % of the cases, 1 or more risk factors were recorded. AP was used in 120 (70.6 %) patients and in 19.2 (18.2 respectively), the indication was incorrect. The most common used ATB was cefazoline (in 53.3 %) and co-amoxicillin (in 24.2 %). The overall adherence to ASHP-G and LSK was 75.2, 73.0 % respectively. The lowest rate of concordance was evaluated in timing of initial ATB dose (44.4; 42.6 % respectively) and in choice of ATB (61.1; 63.9 % respectively).

Conclusion: Certain errors in performance of AP were evaluated. Especially incorrect timing of initial dose and choice of the ATB were identified.

Key words: antibacterial prophylaxis, surgical site infection, adherence.

