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Surgical prophylaxis in a Belgian teaching hospital: a retrospective evaluation

J. De Keulenaer¹, F. Buyle¹, A. Somers¹-², L. De Baerdemaeker³, S. Commeyne¹

¹Pharmacy, UZ Gent, ²Faculty of Pharmaceutical Sciences, UGent, ³Anesthesiology Dept., UZ Gent, Ghent, Belgium

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Background and Objective: Antibiotic prophylaxis in surgery is one of the most important actions to prevent post-operative surgical site infections (SSI). When administered correctly infection rates can be reduced with 40-60%. Because correct use of antibiotic prophylaxis is so important, guidelines were introduced in 2014, reviewed and evaluated in 2015.

Setting and Method: Prophylactic use of antibiotics was retrospectively (03/12/2014 – 17/12/2014) evaluated using six quality indicators. When no registration of antibiotic administration was found in the electronic medical record of the patient, pharmacy files were reviewed to check if a prophylactic antibiotic prescription was registered. Results were compared to data from a previous evaluation and statistical analysis was done using IMB SPSS Statistics 21.0 (New York, USA).

Main outcome measures: Evaluation was done using six quality indicators (antibiotic administration necessary and administered/total surgeries in need of prophylaxis; registration of prophylaxis 60-0 min before incision/total surgeries in need of prophylaxis and administered; prophylaxis ended within 24h after first administration/total surgeries in need of prophylaxis and administered; prophylaxis was according to local guidelines/total surgeries in need of prophylaxis and administered; prophylaxis administered when not necessary/total surgeries where no prophylaxis was necessary; administration of an extra dose when necessary/total surgeries in need of an extra dosing).

Results: A total of 1025 consecutive surgical interventions were evaluated. Seven surgical interventions were excluded, because of lack of information. Prophylaxis was necessary in 682 surgical interventions, only 510 patients (75%) received antibiotic prophylaxis and had it documented in their electronic medical record. 336 surgical interventions did not require antibiotic prophylaxis, but 62 (18%) did receive antibiotic prophylaxis. Only 267 patients (52%) received antibiotic prophylaxis within the correct administration window (60-0min before incision). Antibiotic prophylaxis was terminated within 24h after first administration for 387 patients (90%), after exclusion of patients receiving therapeutic antibiotic treatment. Only 221 patients (49%) received correct antibiotic prophylaxis according to the implemented guidelines. 81 surgical interventions required an extra dose during surgery, only 8 patients (10%) received the extra dose.

Conclusion: When compared to previous results, five out of the six indicators scored worse in this evaluation. Evaluation of the use of antibiotic prophylaxis in surgical interventions is based on registration in the electronic medical record. When registration is incomplete or documented later than effectively administered, data will be influenced. Extra lessons and new implementation strategies are necessary.
Disclosure of Interest: None Declared