

P0128 **Understanding the differing antibiotic prescribing practices in medical and surgical specialties: a prospective cohort study**

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Background: Understanding in detail differing antibiotic prescribing practices in specialties is critical to the co-design of targeted effective stewardship interventions. This study compared antibiotic prescribing in the acute medical and surgical specialties at a large teaching hospital in London.

Materials/methods: Prospective cohort of patients admitted to acute general medical and general surgical teams over one year (June 2016 –May 2017) and followed up for the duration of their admission. Patients admitted sequentially (alternate weeks) to 8 medical and 6 surgical teams were included. Univariate analyses were applied to test differences between medical and surgical prescribing practices using antibiotic indicators including compliance with local policy, escalation of therapy and length of stay. Differences between the groups were assessed using Chi- squared or Fisher's exact test for categorical variables, and Student t-test or Wilcoxon rank-sum test for continuous variables. Variables with a p value of 0.1 or less were included in a multivariate logistic regression model.

Results: 659 patients (362 medicine and 297 surgery) were admitted. 162/362 (45%) medical and 164/297 (56%) were on antibiotics. At antibiotic initiation: 1) a normal white cell count was present in 76/162 (47%) medical, and 52/164 (32%) surgical patients; 2) 70/162 (43%) medical, and 98/164 (60%) surgical patients had no fever; 3) 95% of patients across both specialties patients had a raised C-reactive protein. Microbiological cultures were collected from 48/164 (29%) surgical, and 42/162 (26%) medical patients. 23/162 (14%) of medical and 23/164 (14%) of surgical patients a positive culture. Univariate analysis showed surgical antibiotic prescriptions were more likely to be escalated ($p=0.0037$) and less likely to be compliant with policy ($p<0.001$). In surgery, the odds of escalation of therapy were significantly increased if the patient had a) surgery (OR 1.69, 95% CI 0.939-3.042, $p=0.082$); b) a positive culture (OR 3, 95% CI 0.154–6.576, $p=0.013$); c) signs of infection on chest X-ray (OR 3.38 95% CI 0.942 – 12.089, $p=0.004$).

Conclusions: There is significant variation in the patterns of escalation, adherence to policy and response to diagnostic results between surgical and medical teams. Antibiotic prescribing in surgery needs to be the focus of stewardship efforts.

