PREOPERATIVE GENTAMICIN UNDERDOSING IN THE UROLOGY PATIENT

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Background, Objectives & Methods

**Background:** Gentamicin is a commonly used preoperative antibiotic for urologic procedures
  
  - 2013 ASHP Guideline: Single high-dose of 5mg/kg (dosing weight)

**Objective:** Determine the rate of preoperative gentamicin under-dosing in the urology patient and to delineate risk factors for under-dosing

**Methods:** Retrospective review of all adult patients who underwent urologic surgery and received preoperative gentamicin from January 1, 2017 through October 3, 2019
Results & Conclusions

• **Under-Dosing Results (n = 1927)**
  - Median gentamicin dose = 1.93mg/kg (IQR 1.65 to 3.41)
  - 90% received less than 4.5mg/kg ; 35% received less than 1.7mg/kg

• **Risk Factors for Under-Dosing**
  - Age > 70 years (OR 1.54, p < 0.001)
  - Endoscopic lower urinary tract surgery
    - Compared to endoscopic upper urinary tract (OR 1.47, p = 0.001)
    - Compared to open/laparoscopic (OR 3.03, p < 0.001)
  - No significant difference based on BMI (OR =0.88, p = 0.226)

• **Conclusions**
  - Preoperative gentamicin is substantially under-dosed
  - Future research: AKI, postoperative infection and antibiotic resistance with different dosing