

## SCIENTIFIC SESSION III (CONT.)

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**HOME INTRAVENOUS VERSUS ORAL ANTIBIOTICS FOLLOWING APPENDECTOMY FOR PERFORATED APPENDICITIS, A RANDOMIZED CONTROLLED TRIAL**

David A. Klima, MD, Blair A. Wormer, MD, Paul D. Colavita, MD, Chukwuma N. Eruchalu, Amanda L. Walters, MS, Graham H. Cosper, MD, B Todd Heniford, MD, Andrew M. Schulman, MD.

*Carolinas Medical Center, Charlotte, NC, USA.*

**Purpose:**

To compare the effect of home intravenous versus oral antibiotic therapy on complication rates and resource utilization following appendectomy for perforated appendicitis.

**Methods:**

IRB approved randomized controlled trial including patients aged 4-17 with surgically treated perforated appendicitis from 1/2011 - 9/2013. Perforation was defined as a hole in the appendix or intra-abdominal fecalith at time of operation, and further divided into three grades: I-contained perforation, II-localized contamination to right gutter/pelvis, III-diffuse contamination extending to left gutter/upper quadrants. One hundred thirty-seven consecutive patients underwent appendectomy for perforated appendicitis. All received IV ertapenem while inpatients. Postoperatively, 80(58%) were consented and randomized by perforation grade to complete a 10 day course of antibiotic therapy at home with either IV ertapenem via PICC line, or oral amoxicillin/clavulanate. Criteria for discharge included >24hrs without fever (>101.5°), tolerating diet, and pain control with oral medications. Thirty day postoperative complication rates including abscess, readmission, and wound infection, as well as hospital charges, were compared.

**Results:**

Forty-three (54%) patients were randomized to the IV group and 37(46%) to the oral group. IV patients were slightly older ( $12.4 \pm 3.5$  yrs v.  $10.2 \pm 3.6$  yrs;  $p < 0.01$ ) with higher BMI ( $21 \pm 6$  v.  $18 \pm 4$ ;  $p < 0.05$ ) than oral patients; however there were no differences in gender, race, comorbidities, temperature at admission ( $101.5 \pm 1.6^\circ$  v.  $101.5 \pm 1.5^\circ$ ;  $p > 0.05$ ), WBC count at admission ( $17.9 \pm 6.6$  v.  $16.8 \pm 4.8$ ;  $p > 0.05$ ), or perforation grade (I-20.9% v. 24.3%, II-32.6% v. 35.1%, III-46.5% v. 40.5%; all  $p > 0.05$ ). When comparing IV to oral, there was no difference in operative approach (Laparoscopic-95.4% v. 91.7%, Open-2.3% v. 8.3%, Converted-2.3% v. 0; all  $p > 0.05$ ), length of stay ( $4.3 \pm 1.5$  days v.  $4.2 \pm 1.9$  days;  $p > 0.05$ ), postoperative abscess rate (11.9% v. 8.3%;  $p > 0.05$ ), wound infection (0 v. 5.6%;  $p > 0.05$ ), or readmission rate (14.3% v. 16.7%;  $p > 0.05$ ). Total hospitalization charges were significantly higher for IV versus oral therapy ( $\$42,049 \pm \$8,404$  v.  $\$34,029 \pm \$8,064$ ;  $p < 0.0001$ ).