



Poster Session II (cont.)

P30

LYMPHOCYTE DEPRESSION AND POSTOPERATIVE ABSCESS AFTER APPENDECTOMY IN CHILDREN

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Purpose: To evaluate the efficacy of lymphopenia to diagnose post-appendectomy abscess in pediatric complex appendicitis.

Methods: This single-center retrospective cohort study included patients who underwent appendectomy for complex appendicitis from 4/2012-10/2014. Postoperative abscess was diagnosed with ultrasound and/or computed tomography. For equivocal imaging results, patients were deemed to have an abscess if they underwent drainage procedure. For abscess patients, labs were obtained from the day of imaging, or the closest pre-imaging day. For non-abscess patients, labs were obtained from the day closest to discharge. Patients with and without postoperative abscess were compared in regards to demographics, WBC count, percent neutrophils, and percent lymphocytes. Odds ratios for abscess were examined for lab values using logistic regression models.

Results: There were 611 patients included, with 573 (93.8%) having WBC count, 556 (91%) having the differential, and 551 (90%) had both. Abscesses were identified in 79 (12.9%) patients. There were no demographic differences between the abscess and non-abscess cohorts ($p > 0.10$ for all). The WBC count was higher in the abscess group (median (IQR) 11.9 (9.9-10.3) versus 8.5 (6.8-10.3) K/dl, $p < 0.001$). The median percent neutrophils were 69% (IQR 64-76) versus 57% (IQR 49-65) and lymphocytes 18% (IQR 14-24) versus 30% (IQR 23-39) for the abscess and non-abscess groups, respectively ($p < 0.001$) and lymphopenia, defined as lymphocytes below normal for age (OR 4.46 (95% CI 2.23-8.93), $p < 0.001$). Patients with leukocytosis and lymphopenia had the highest rate of abscess formation (36%) and those with a normal WBC and normal lymphocyte had the lowest (3%) ($p < 0.001$, see Figure).

Conclusions: Assessment of lymphocyte depression may be a useful adjunct to identify the risk of a post-operative abscess in patients with complicated appendicitis.

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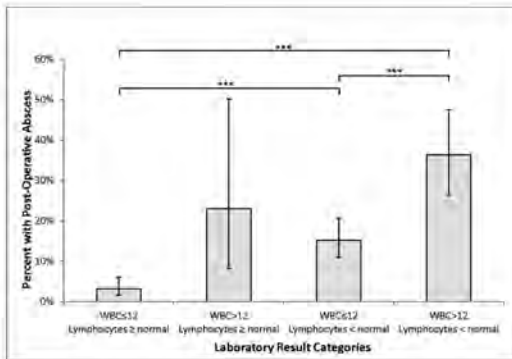


Figure: Probability of postoperative abscess development for patients based on white blood cell (WBC) and lymphocyte counts. Bars are shown with 95% confidence intervals. *** denotes $p < 0.001$.