# AB137. Predictive value of C-reactive protein/albumin ratio in major abdominal surgery

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**Background:** Surgical site infection (SSI) is a major cause of morbidity, resulting in significant healthcare and economic implications. The ability to predict patients at high risk of SSI may enable targeted follow-up and management. This study sought to examine the relationship between the C-reactive protein (CRP)/albumin ratio in the prediction of SSI in patients undergoing emergency major abdominal surgery.

**Methods:** A retrospective study of all patients who underwent emergency major abdominal surgery in our institution over two years was performed. Patients were identified from a prospectively maintained database of SSI's and cross referenced with hospital records. Patient demographics including age, gender, American Society of Anaesthesiology (ASA) grade, and wound classification (clean, clean/contaminated, contaminated, and dirty) were collated.

**Results:** CRP pre-operatively of greater than 5 was statistically significant in predicting an SSI ($P<0.05$). In addition, pre-operative serum Albumin of <32 was also significant in predicting a superficial site infection. Interestingly, preoperative CRP/Albumin ratio did not predict SSI, but post-operative CRP/Albumin ratio was predictive at both 24hr and 48 hr time points ($P<0.05$). Median length of stay in the SSI group was statistically significantly longer at 27.88 (range, 7–76) versus 18.32 (1–56) days ($P<0.01$).

**Conclusions:** Though CRP and Albumin have merit in isolation in preoperative identification of patients at risk of SSI, CRP/albumin ratio is a useful post-operatively adjunct in predicting SSI post-operatively at 24 and 48 hours post-operatively.

**Keywords:** C-reactive protein (CRP); albumin; surgical site infection (SSI); abdominal surgery

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