Correlation of acute findings of CT Abdomen/Pelvis performed for abdominal pain in the emergency department with corresponding laboratory values.

Abstract No: 18-049

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Purpose:
Objectives: To establish a correlation between acute findings in CT Abdomen/Pelvis performed for abdominal pain in the emergency department with the patient's corresponding laboratory values.

Materials/Methods Used:
Methods: Retrospective review of 565 patients was performed. Inclusion criteria included those patients whose CT abdomen/pelvis was performed for sole indication of "abdominal pain." Additional inclusion criteria included age > 18 years old, presented to the emergency room (ER), and had laboratory work done at the same visit. CT abdomen/pelvis scans were categorized into acute versus not acute categories based on their report's impression. Chart review was performed for all the patients to assess if the patient had any additional symptoms (such as nausea, vomiting, or diarrhea) as well as a fever. The following laboratory values were obtained at the time of the same ER visit: temperature, white blood cell count (WBC), total bilirubin (Tbili), alkaline phosphatase (AlkPhos), AST/ALT, and lipase. Analysis was performed by the institution's statistician using chi-square tests for associations. Sensitivity and specificity analysis was also performed.

Results:
Results: The following chart values had a significant (p<0.05) association with an acute findings on CT abdomen/pelvis: WBC, fever, Tbili, AlkPhos, and AST. The following values did not have a statistical significant association: ALT and lipase. Of note, additional symptoms reported by the patient did not have any associations. Additionally, categories were created to identify groups of laboratory data that could be utilized with a higher certainty. When all the above liver function tests were combined as well as all lab values overall, there was a greater statistical significance with p<0.001. The highest sensitivity (88%) was with a grouped analysis of all laboratory values and additional symptoms. The highest specificity (97%) was with lipase.

Conclusions:
Conclusion: Laboratory values and additional complaints can be utilized effectively in predicting an acute versus not acute finding on CT abdomen/pelvis in the emergency department when the patient presents for generalized abdominal pain. Sensitivities of 88% and specificity of 97% can be ob

**Primary Category:**
Quality and Safety

**Secondary Category:**
Informatic Innovations

**Area of Focus:**
Diagnostic Radiology