**To Determine the Diagnostic Accuracy of CRP and WCC in Non-Traumatic**

**Acute Abdomen by Taking CT scan Findings as Gold Standard**

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## ABSTRACT

**OBJECTIVE:** To determine the diagnostic accuracy of C - Reactive Protein (CRP) and White Cell Count (WCC) in non-traumatic acute abdomen pathologies by taking CT scan findings as gold standard.

**STUDY DESIGN:** A retrospective analytic cross sectional study

**PLACE AND DURATION:** At Pinder fields Hospital Mid Yorkshire NHS Trust, over a period of 6 months from 1st January 2014 to 31st June 2014.

**METHODOLOGY:** All patients reporting to Emergency Department due to non-traumatic acute abdomen were included. Other than all basic demographic information, C- Reactive Proteins and White Cell Count within 24 hour of admission were recorded and its diagnostic value compared to the final diagnosis of all patients with CT scan. CRP > 5 mg/l and WCC <4 and >11 were taken as abnormal.

**RESULTS:** A total of 396 patients were studied, with mean age 59 years and male to female ratio was 1:1.5. Positive CT showing acute abdomen pathologies were 74.24% and 25.86% were negative. Abnormal WCC and Positive CT scan were found in 154 patients with Specificity of WCC 72% and Sensitivity of WCC 52%. The Pearson Chi-Square showing p-value < 0.001, which is highly significant i.e. there is a trend that abnormal WCC is associated with positive CT scan. The specificity and sensitivity of positive CT scan findings were 84% and 89-91% when CRP levels were more than 50 with normal or abnormal WCC. This reaches up to 97% with raised WCC and 100% with normal WCC.

**CONCLUSION:** C –reactive proteins more than 100 U/L has high diagnostic value and indication for CT scan or Surgery in diagnosing the exact cause of acute abdomen.

**KEYWORDS:** Non-Traumatic, Acute Abdomen, C- Reactive Proteins, White Cell Count, CT Scan, Diagnosis

**HOW TO CITE THIS:**

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