

Does Elevated White Blood Cell (WBC) Count Aid in the Diagnosis of Acute Appendicitis?

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Background: Acute appendicitis (AA) is one of the most common surgical emergencies worldwide.

Objective: To evaluate the clinical value of elevated white blood cell (WBC) count in the diagnosis of AA.

Design: A Retrospective Study.

Setting: Salmaniya Medical Complex, Bahrain.

Method: Two hundred twenty-eight patients who underwent appendectomy were included in this study. Histological results were reviewed and compared with the preoperative WBC counts and analyzed. Patients were divided according to their postoperative histological reports: normal appendix, uncomplicated inflamed appendicitis and complicated appendicitis.

Result: Fifteen (6.6%) had normal appendix, 175 (75.7%) had uncomplicated inflamed appendicitis and 38 (16.7%) had complicated appendicitis. The levels of WBC were higher in the appendicitis groups compared to the normal appendix group. The cut-off WBC value was found to be 9.995×10^3 with 65.67 sensitivity and 60% specificity. The Negative Predictive Value (NPV) was 11.54.

Conclusion: The WBC count as a single measure has not been found to be of clinical value in the diagnosis of AA. The sensitivity is not enough to rule out AA. Surgeons should not depend on elevated WBC as a single measure. Diagnosis of acute appendicitis is a clinical diagnosis.