



2nd SOUTHEAST EUROPEAN CONGRESS OF EMERGENCY AND DISASTER MEDICINE

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ABSTRACT BOOK

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S-31

The Evaluation of Commonly Used Inflammatory Parameters and Imaging Modalities in Diagnosis of Complicated Acute Appendicitis

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Objective

Acute abdominal pain is one of the most frequent complaint with 10% for emergency admission and 1,9% occurred by acute appendicitis. White blood cells (Wbc), percentil of neutrophil (Neu%), and C-reactive protein (CRP) are the most frequent inflammatory parameters, ultrasonography (USG) and computed tomography (CT) are the most frequent imaging modalities used for evaluation the severity of acute appendicitis. The aim of this study is to investigate the efficacy of these inflammatory parameters and imaging modalities in the diagnosis of complicated acute appendicitis.

Material and Methods

Between January 2014 to December 2018 the patients who operated for acute appendicitis were evaluated for age, gender, pathologic severity (uncomplicated appendicitis (UCA) or complicated appendicitis (CA)), Wbc, Neu%, CRP, USG and CT results retrospectively. Appendicitis and phlegmonous appendicitis accepted as UCA, gangrenous and perforated appendicitis accepted as CA. USG and BT evaluated as non-performed, performed but negative and performed and positive. T-test, Kruskal-Wallis ve Mann Whithney U test was performed for statistical analysis an $p < 0,05$ was accepted as significant.

Results

628 patients were included the study. 88,2% of the patients were UCA, 11,8% of the patients were CA. The mean age was found $29,86 \pm 12,28$ years at UCA, and $33,66 \pm 14,86$ years at CA. 67% of the patients were male. There was no statistically significant difference between groups for age and gender ($p > 0,05$). The differences between UCA and CA for Wbc, Neu% and CRP were statistically significant ($p < 0,05$). The appendicitis was not detected 27,7% of the UCA, and 45,9% of the CA at USG. CT was performed 36,5% of the UCA, and 51,4% of the CA. The appendicitis was not detected similiarly for both groups at CT (11,4% to 11,7%). There was statistically significant difference between groups for USG and CT ($p < 0,05$). (Table I)

Conclusions

16,5-24,4% of the acute appendicitis occurred by complicated appendicitis and mortality rates increased to 31,2%. The sensitivity of Wbc, Neu% and CRP was reported as respectively 43%, 60,1% ve 51,4%, and the specificity as respectively 73,8%, 90,9% ve 85,7% for evaluation the severity of acute appendicitis. The sensitivity of the USG was reported as 44-90% and the specificity was reported as 47-95% for evaluation the severity of acute appendicitis. The false negative rate of USG was reported as 15-30%. The sensitivity of the CT was reported as 72-97% and the specificity was reported as 91-95% for evaluation the severity of acute appendicitis. The detection of acute appendicitis was reported as 23,5% for CT. In recent study Wbc, Neu% and CRP levels were statistically higher at complicated acute appendicitis. The false negative rate of USG was found higher at complicated appendicitis. CT performed higher at complicated appendicitis, however the false negative rate was found similar at both complicated and uncomplicated appendicitis. In conclusion; commonly used inflammatory parameters such as Wbc, Neu% and CRP levels were more higher at complicated than uncomplicated appendicitis. The USG has higher false negative rate for diagnosis the appendicitis or complication, therefore CT must be performed if there is any suspicious of appendicitis or complication at negative USG.

Keywords: Complicated Appendicitis; Wbc; Neutrophil %; CRP; Imaging



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DURSUN KARAKAŞ

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