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SUMMARY AND CONCLUSION

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Acute appendicitis is almost common during later childhood and early adult life. In developing countries, the incidence of appendicitis now appears to be increasing. Quick and accurate diagnosis of acute appendicitis is still a major problem, so every attempt should be made to increase diagnostic accuracy.

The aim of this work is to evaluate some immunological aspects in children suffering from appendicitis before and after appendicectomy, to correlate immunologic status with the degree of the disease and to evaluate the role of immunological parameters in the diagnosis of appendicitis.

One hundred patients of both sexes with age range of 7-15 years were studied. All showed clinical manifestations of acute appendicitis and were going to be operated upon for appendicectomy. Twenty normal healthy volunteer children, matching sex and age range, were studied as a control group.

This study was carried out at Zagazig University Hospital and Zagazig general Hospital.

The patients, depending on histopathological examination of the excised appendices were classified into 3 groups; perforated appendicitis group, non-perforated appendicitis group and normal appendix group.

All subjects were subjected to the following:

1) Detailed history taking with special attention to age, sex, abdominal pain, fever, anorexia, nausea and vomiting.

2) A thorough clinical examination with special attention to : temperature, pulse, abdominal tenderness and abdominal rigidity.

Blood samples were taken from operated patients (preoperativly and 7 days postoperatively), and control group for assessment of the following:

- Total and differential leukocytic counts (WBC and Neutrophil %)
- ESR
-CRP
- α-1- antirypsin
- C3
- IgG, IgM, IgA
- phagocytic activity.

The following was found:

1- There was a relatively high negative appendicectomy rate in children.

2- Age and sex can not differentiate significantly between positive and negative cases.

3- History of abdominal pain was the most common complaint and tenderness was the most constant sign.

4- Temperature showed highly significant difference but can not be used as a diagnostic aid.

5- The history and physical findings were not particularly helpful in distinguishing acute appendicitis from the negative group.

6- Most of the negative appendicectomies were done within the first day of abdominal pain.

7- Total and differential white blood cell counts, (WBC and Neutrophil%), ESR, CRP and C_3 provided good indication and positive correlation with acute appendicitis and showed respectable diagnostic values.

8- α-1-antitrypsin, IgM, IgG, IgA and phagocytic activity could not provide valuable relationship with acute appendicitis, and also did not show significant depression reflecting the general immunological status of the studied children.

Conclusion and Rocommendtion

- The negative appendicectomy rate is in need for proper estimation and evaluation. Histopathological examination for every excised appendix, may help, and will lead to improve the accuracy of diagnosis.
- Diagnosis of acute appendicitis in children, based on history and clinical findings only, was unreliable. Using laboratory tests is mandatory.
- Active observation with close monitoring and repeated examination, and laboratory test may lead to decrease the rate of negative appendicectomy without increasing the rate of perforation.
- CBC, neutrophil%, CRP, and C_3 were good indicators for acute appendicits in children with respectable diagnostic values but with combination of two or more of these parameters, the diagnostic values and accuracy showed significant improvement, and the recommended combination was WBC ($>13.0\times10^9$/L) and CRP (>0.6mg/dl) which needs more research to be evaluated in diagnosing suspected cases of acute appendicitis in children.