



Lymphocyte populations and apoptosis of peripheral blood B and T lymphocytes in children with end stage renal disease

Khaled Saad, Khalid I. Elsayh, Asmaa M. Zahran, Karema M. Sobhy

Abstract:

Background: End stage renal disease (ESRD) is a worldwide devastating health problem due to its increased prevalence in the population and high association with several pathologic conditions including immunodeficiency, which makes a significant contribution to morbidity and mortality. **Aim:** The present study aimed at analysis of T and B lymphocyte subpopulation and the detection of flowcytometric apoptosis markers on peripheral B and T lymphocytes in a cohort of children with ESRD. **Subjects and methods:** A case-control study was conducted on 28 children with ESRD. In addition, 30 age and sex matched healthy children were included as a control group. We used Annexin V-FITC binding assay as a sensitive probe for identifying cells undergoing apoptosis. **Results:** Circulating neutrophils, T and B lymphocytes were lower in patient group. In addition, apoptotic B and T lymphocytes occurred more frequently in children with ESRD than in the control group. **Conclusion:** Our finding of low numbers of circulating neutrophils, T and B lymphocytes, and increased portion of apoptotic B and T lymphocytes in children with ESRD, may emphasize the fact that these derangements are the main mechanisms responsible for the impairment of the immune system in ESRD children, also it adds to the fact that both cellular and humoral immunity affected in ESRD children. Finally, uremia and increased peripheral lymphocyte apoptosis were the major causes of lymphocyte populations' depletion in our ESRD patients.

Published In:

Ren Fail , ,