PREVALENCE OF HEPATITIS C VIRUS INFECTION IN CHILDREN WITH CHRONIC RENAL FAILURE UNDER DIALYSIS IN BENHA

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Abstract

The aim of this study is to determine the prevalence of HCV infection in children with CRF in Bertha University Hospital nephrology unit. Thirty five subjects were enrolled in our study in three groups; cases groups (I, II) 25 cases of CRF and control group (III) of 10 apparently healthy subjects. Samples of each subject tested for anti-HCV antibody by HCV third generation enzyme-linked immunoassay (EIA 3.0) and positive samples were then confirmed by direct nested reverse transcription polymerase chain reaction (RT-PCR) aiming to determine HCV prevalence among these subjects.

A high prevalence of HCV 12/15 (80%) was detected in group I, and 1/10 (10%) in group II compared to the control group III 0/10 (0%) in healthy children. This study showed high prevalence of HCV infection in our HD patients, we found that longer duration on dialysis is a risk factor for HCV infection suggesting the role of nosocomial transmission of HCV in our dialysis unit.

Despite a lack of significance found for impact of blood transfusion on HCV-positivity, the role of transfusions could not be excluded.

Meticulous practice of preventive measures is essential to eradicate the spread of HCV in HD units.

Introduction

The prevalence of Hepatitis C corresponding to about 170 million virus (HCV) is estimated to be lions worldwide (Shepard et al.,
2005). Up to 20% of Egyptians are evidenced to be HCV infected. Mostly in rural areas and older age because of parenteral anti-schistosomal treatment in beginning of 1920s (Mohamed et al., 2006). When conservative management of End Stage Renal Disease (ESRD) is inadequate, dialysis and transplantation are alternatives (Ellis, 2008).

Hepatitis C Virus (HCV) is transmitted usually via parenteral routs like intravenous drug abuse, blood products, organ transplantation, tattoos, haemodialysis, possibly by sexual transmission and maternal-infant transmission (El-Ftaziky et al., 2007).

Prevalence of HCV positivity among patients on dialysis average from 10% up to 60% in some centers depending on number of blood transfusions, duration of dialysis and mode of dialysis. It differs also in developed and developing countries. (Ahmed, 2004).

HCV transmission also occurs among patients on dialysis because of incorrect implementation of infection-control practices (CDC, 2001).

**Aim of the Work**

This work aims to study the prevalence of Hepatitis C Virus (HCV) in children with Chronic Renal Failure (CRF) under dialysis who are treated and followed up in pediatric nephrology unit in Benha University Hospital compared with group of children End Stage Renal Disease (ESRD) under conservative treatment and another group of apparently healthy children.

**Patients and Methods**

Cases: Cases with chronic renal failure (CRF) attending Benha University Hospital pediatric department nephrology unit who consist of group (I) : fifteen cases of CRF under haemodialysis (HD) in nephrology unit (5 males and 10 females), also group (II): ten cases with CRF under conservative treatment (7males and 3 females) who follow up in the unit. Data collected for all the studied cases included the following: Age, sex, clinical picture at presentation, etiology of CRF, hepatic manifestations, history of blood