Introduction and aim of work

Diarrheal diseases are an important cause of infant morbidity and mortality in developed countries. Infants are more susceptible than preschoolers and are three times more likely to be admitted to the hospital. Furthermore, it is estimated that diarrheal diseases account for 10 % of preventable infant deaths. (Roy, 1995).

Acute diarrhea is a major killer of the children in the developing world. Underlying malnutrition and occurrence of Complications of illness explain the high fatality rate (Du Pont, 1995).

The physiologic consequences of diarrhea vary with its severity, its duration, associated symptoms, the age of the child, and his state of nutrition previous to its onset. Acutely, the loss of water and electrolytes leads to dehydration , electrolytes, and acid-base disturbances (Banwell, 1990).

With severe dehydration there will be a state of acute hypoperfusion, the net effect of which is impaired delivery of oxygen and nutrients with consequent cellular injury. As the cellular metabolic effects of acute hypoperfusion cumulate, a cascade of mediators of further cellular injury results in a cycle that may become irreversible. The general term describing this condition is shock. (Kallen and lonergan, 1990).

Salt and water depletion as a result of diarrhea and vomiting are by far the commonest causes of hypovolemic shock in the pediatric age group. (Perkin and levin, 1982). Consequently, it can lead to hypoperfusion of the kidney and ischemic renal damage (Gordillo and Jones, 1976).

Ultrasonography has now become the primary imaging modality in urinary tract disease in children (Friedman, et al. 1983).

The aim of this work is to study the role of ultrasonography in detection of renal problems in severe infantile diarrhea with shock.