RESEARCH PAPER International Journal of Medical Sciences, Vol. 2 Issue 1, April to September, 2009 : 37-40

Acute Lower Respiratory Tract Infections and Renal Function Tests in Acute Illness of Children

SHAHID A. MUJAWAR, JAYASHREE V. GANU AND VINAY W. PATEL

ABSTRACT

Objective:

Acute illness and its complications including acute lower respiratory tract infections has been increased in children recently. Renal function tests play an important role in the pathogenesis of acute lower respiratory tract infections.

Methods:

30 children who admitted to the pediatric ward for acute lower respiratory tract infections were included in the study. Age and sex-matched 30 children, not having any acute illness and renal disease were taken as control. They were subjected to estimation of serum urea, creatinine, uric acid, sodium, potassium, and excretion of urea, creatinine, total protein, and microalbumin.

Results:

A radiological evidence of pneumonia was present in all patients. Serum urea, creatinine, uric acid, potassium levels were significantly altered in children with acute lower respiratory tract infections except sodium and excretion of urea, creatinine were significantly decreased whereas, total protein, and microalbumin excretion were increased.

Conclusion:

In children with acute lower respiratory tract infections renal functions were altered may be due to insufficient antidiuretic hormone (ADH) secretion.

See end of the article for authors' affiliation

Correspondence to :
SHAHID A. MUJAWAR
Department of Biochemistry, Grant Medical College and Sir J.J. Group of Govt. Hospitals, Byculla, MUMBAI (M.S.) INDIA

Key words : Acute lower respiratory tract infections, Pneumonia, Proteinuria.

Accepted : February, 2009

Acute lower respiratory tract infections are a leading cause of mortality and a common cause of morbidity in children below 5 years of age. In developing countries pneumonia alone kills around 4 million children every year [7]. It accounts for 20-24 per cent of childhood death in India [6].

The World Health Organization term "acute respiratory infection" is regarded as synonymous in describing lower respiratory infections and may be more useful to general practitioners. It also recognizes that there is a significant overlap in infants between the clinical pictures of bronchiolitis and viral pneumonia. The guidelines should help to inform primary care management of any child with signs of an acute lower respiratory infection [3].

The formidable problem is complicated by the profusion and heterogeneity of the etiologic agents-viral, bacterial, fungal and others. More than 150 nonbacterial agents etiologically related to acute respiratory infections (ARI) have been identified and more than 90 per cent of ARI are primarily caused by nonbacterial agents. Since only few etiologic agents are susceptible to antimicrobial treatment, where as others (mostly viral), are not, precision in diagnosis and treatment is necessary [8].

MATERIALS AND METHODS

30 children (mean age = 2.68 ± 1.52 years) with acute lower respiratory tract infections (twenty boys, ten girls) were admitted in pediatric ward, P.V. P.General Hospital, Sangli or General Hospital, Miraj and composed the study group. The control group consisted of 30 children matching in age and sex without a history of acute illness or renal disease.

Patients with Cardiac disease, Hepatic disease, Diabetes mellitus, Septicemia, and Human Immunodeficiency Virus (HIV) infection were excluded from the study. A radiological evidence of pneumonia was present in all patients. The details such as history, treatment, report of routine investigations like Hb, CBC, ESR, blood pressure, blood sugar and urine report were recorded. The study was