INTRODUCTION

Since a comprehensive report of respiratory syncytial virus (RSV) in the immunocompromised children in 1986 (Hall et al, 1986) several studies have implicated RSV to be a cause of serious disease in the immunocompromised adults as well (Englund et al, 1988; Whimbey et al, 1995, 1996; Wendt et al, 1996). Although RSV infection was reported in adults with pneumonia in the 1960s, it is only during the last decade the potential for widespread occurrence and serious clinical implications to immunocompromised patients has been recognized. In apparently healthy individuals RSV rarely causes more than a self limited upper respiratory tract infection. However, in immunocompromised patients it often progresses to the lower respiratory tract. At times it may lead to severe life threatening pneumonia among adult immunocompromised patients (Englund et al, 1988). Literature regarding RSV infection of the upper respiratory tract in adults with hematological malignancies, such as leukemia and lymphoma is scanty, especially from the Indian subcontinent. The authors studied the role of RSV in community acquired acute respiratory tract infection amongst adult patients with commonly seen hematological malignancies.

MATERIALS AND METHODS

In this study, we prospectively studied adult (>12 years old) hematological malignancy patients with acute upper respiratory tract infection (URTI) attending the hematology clinic, Post Graduate Institute of Medical Education and Research, Chandigarh, India. The study was carried out over two years, from January 2002 to December 2004, to determine the role of RSV in such patients. The study was approved by the institute ethics committee. Throat and nasal washings (3 ml each) were collected from each patient using sterile minimum essential medium. Samples
were processed following the method described by Maitreyi et al (2000). RSV antigen was detected using FITC conjugated monoclonal antibody against M2 protein, phosphoprotein and fusion protein of both A and B subtypes (Novocastra Limited, Germany) by an immunofluorescence test. For viral isolation, the samples were inoculated into a Hep-2 cell line within a few hours of collection and observed for 2 weeks for the development of cytopathic effects. Two serial passages were given before being reported as negative.

RESULTS

A total of 71 samples were collected from 48 patients, of whom 31 (60%) had acute leukemia, 6 (11.7%) had chronic leukemia, 10 (19.6%) had lymphoma (7 with non-Hodgkins and 3 Hodgkins type), and the remaining one patient had multiple myeloma. Of these 48 patients, 8 had two episodes of acute respiratory tract infection, while 1 patient had 3 episodes. The majority of patients were on chemotherapy. None had lower respiratory tract infection. None of the patients were positive for RSV antigen and virus was not isolated in any samples.

DISCUSSION

RSV is traditionally regarded as a pediatric pathogen; it is an important viral cause of lower respiratory tract infection in children (Broor et al, 1999; Collins et al, 2001). It rarely causes more than a self-limited upper respiratory tract infection in immunocompetent adults (Whimbey et al, 1995). One study found RSV to be a cause of serious disease in immunocompromised adults with leukemia (Whimbey et al, 1995), and another study in organ transplant recipients (Whimbey et al, 1996). RSV infection in immunocompromised hosts is associated with significant morbidity and mortality due to pneumonia (Whimbey et al, 1996, 1997; Englund et al, 1988). Infections with RSV in these studies were more commonly nosocomial rather than community acquired, and accounted for 30-50% of cases in the hospital setting. In our study, the absence of RSV in adult leukemia/lymphoma patients attending outpatient department with upper respiratory tract infection indicates that RSV may not be a major health problem in the community. However, the small sample size is a limiting factor. Further studies with larger sample sizes would be more conclusive.

REFERENCES