Short Communications

Chlamydia Sp. in Hospitalised Children with Community Acquired Pneumonia

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Our aim was to document the prevalence of chlamydial infection in children less than five years of age with Community Acquired Pneumonia (CAP). Seventy-three children, 1 month to 5 years of age, hospitalized with CAP were enrolled over a period of one year. Microimmunofluorescence (MIF) was done to detect IgM antibodies against Chlamydia sp. in sera of all patients; PCR was performed to detect C. pneumoniae DNA in nasopharyngeal aspirates. The prevalence of Chlamydia species infection in CAP in children < 5 years of age was 5.5% (4/73). Two cases were positive for C. trachomatis antibodies; one case was positive for C. pneumoniae antibodies and one case was positive for C. pneumoniae DNA. Chlamydia sp. have an important role in CAP in children <5 years and for early diagnosis of infection, use of more than one method i.e. PCR and serology both is advisable.

Key words: *Chlamydia species, community-acquired pneumonia, MIF, PCR*

C. pneumoniae ranks among the three most common etiologic agents of community acquired pneumonia (CAP)(1). A specific diagnosis is important, because ß-lactam antibiotic treatment is ineffective in infections due to *Chlamydia*(2). The organism may be causally associated with wheezing, asthmatic bronchitis and adult onset asthma(3). Prevalence of *C. pneumoniae* in children <5 years of age varies from 0 to 11%(4,5). Presence of nasopharyngeal *C. trachomatis* is also associated with a pneumonitis syndrome of infancy(6). MIF test is considered the gold standard for estimation of *Chlamydia* species specific antibodies(7). PCR on nasopharyngeal specimen is a rapid and sensitive method for detection of *C. pneumoniae*(8). The present study was conducted to detect the prevalence of Chlamydial infection in children less than five years of age hospitalized with community-acquired pneumonia.

Subjects between one month to 5 years, hospitalized with severe to very severe pneumonia, from August 2004 to August 005 were enrolled. Children with comorbid conditions, immuno-compromised status and congenital heart disease were excluded. All blood samples were tested for IgM antibodies against *Chlamydia pneumoniae, C. trachomatis* and *C. psittaci* using MIF (Chlamydia IgM sero FIA kit, Savyon Diagnostics Ltd., Israel). Presence of IgM antibodies in titer >1:16 was labeled as acute infection(9). Nasopharyngeal aspirates were obtained by passing an infant feeding tube through each nostril; secretions were aspirated for PCR by syringe suction. A pair of *Chlamydia pneumoniae* specific oligonucleotide primers Cpn A and Cpn B based on 16S rRNA gene (Bangalore genei Pvt. Ltd., India) were used for amplification(10).

We enrolled 73 cases (mean age 12.7 mo). Of these, 53 were male and 20 were females. Forty-three had rural background and 30 were from urban area. On MIF, three of the 73 (4.1%) patients were positive for IgM antibodies in titer >1:16 against Chlamydia species. Of these one was positive for *C. pneumoniae* while 2 were positive for *C. trachomatis*. One patient was positive for *C. pneumoniae* by PCR; however, it was not the

What this Study Adds

- The prevalence of *Chlamydia pneumoniae* infection in children hospitalized with community acquired pneumonia in this study was 5.5%(4/73).

same patient who had IgM antibodies against *C. pneumoniae*. Thus, overall 4/73 (5.5%) patients tested positive for Chalmydia species. *C. psittaci* was not detected in any sera.

In present study, infection with *Chlamydia pneumoniae* and *C. trachomatis* both were found to be low despite using two methods *i.e.* MIF and PCR. This is in contrast to previous studies, which reported a prevalence of 6.4 and 11% based on ELISA results alone(4,11). They included children of all ages and ELISA is known to be less specific than MIF. Specific antibodies to *C. pneumoniae* are uncommon in children under age of 5 years using MIF(12). Hence, use of 2 methods *i.e.*, MIF and PCR is advised.

IgM response appears 3 weeks after onset *C. pneumoniae* infection, and may be absent in reinfection(13). In one of our PCR positive and IgM negative *C. pneumoniae* patient, total duration of illness was 8 days, in contrast to IgM positive patient, in whom duration of illness was 21 days. Moreover, culture documented, acute infection without sero conversion is known(14). These patients however can be considered simple carriers as asymptomatic nasopharyngeal carriage has been reported in adults and children(15). PCR negative and IgM positive *C. pneumoniae* infection could be due to clearance of organism from the respiratory tract while antibodies start appearing.

C. trachomatis pneumonia is usually apparent in infants between 4 and 2 weeks of age(16). While in our study, cases were 9 and 26 months old respectively. In present study authors did not find any particular clinical correlation with the laboratory diagnosis of chlamydial infection. But the number of positive patients is too low to draw any conclusions. Further studies with large number of patients are required to find out role and clinical characteristics of *C. trachomatis* and *C. pneumoniae* in CAP in children.

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Cranial Neuroimaging in Infantile Tremor Syndrome (ITS)

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Clinical, hematological and cranial neuroimaging findings of eight cases of infantile tremor syndrome are reported. All had coarse tremors, anemia, hyperpigmentation and delayed or regression of developmental milestones. Five patients had microcytic, hypochromic anemia, three had dimorphic anemia. CT scans of two cases and MRI scans of three cases showed cerebral atrophy. One of these two CT scans, in addition, showed a small hypodensity in right basal ganglia region. Two CT scans were normal. One MRI showed hyperintense signals in frontal and periventricular white matter on T2 weighted images. The changes described are non-specific and also seen in cases of malnutrition and viral infections of CNS.

Key words: *Infantile tremor syndrome (ITS), Neuroimaging*

Infantile tremor syndrome (ITS) is a well-recognized clinical condition characterized by presence of tremors, anemia, dermal pigmentation and regression of developmental milestones, beginning during later part of infancy(1). Presence of tremors and neuromotor regression are the most prominent neurological manifestations basis of origin of which is poorly understood(1,2). Classically the presence of tremors has been attributed to structural and functional alterations of extra pyramidal system due to various causes. To find any such structural changes of brain, we studied cranial neuroimaging (CT scan/MRI) findings of eight such cases admitted in Department of Pediatrics, M.Y. Hospital and Chacha Nehru Bal Chikitsalaya; tertiary care hospitals at Indore, between March 2005 and October 2005, along with their clinical and hematological parameters.

Results

Mean age of the cases was 17 months. There were six boys and two girls (*Table I*). Four patients