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Conclusion
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This study entitled “Seroprevalence of chlamydia trachomatis in infants upto six months of age, with lower respiratory tract infection in Bundelkhand region” was conducted in the Department of Pediatrics, with assistance from the Department of Microbiology, M.L.B. Medical College, Jhansi. The period of study was one year.

A total of 50 cases were taken in the study, who presented in Out Patient Department or were admitted in Pediatric ward of the Department. Only those infants of upto six months age, who had features of atypical pneumonia, like not responding to initial course of conventional antibiotics and not critically ill, were taken in the study. These fifty infants were distributed according to age, sex and association of chlamydia trachomatis positivity in these infants was studied with mode of delivery, duration of cough, conjunctivitis, fever, total leucocyte count and absolute eosinophil count.

There were 8 (16%) infants below two months, 22 (44%) between 2 to 4 months and 20 (40%) between 4 to 6 months of age group. There were 40 (80%) males and 10 (20%) females. 38 infants were born by vaginal delivery and 12 by caesarian section.

Their presenting complaints were recorded and a few leading questions were also asked. Their thorough general and systemic examination was done. In the investigations hemoglobin
percent, total leucocyte count, absolute eosinophil count, and chest X-ray was done.

Blood samples were withdrawn from a peripheral vein with all precautions and asepsis. Serum was separated by centrifugation and stored in deep freezer at \(-20^\circ\text{C}\). Repeated freeze-thawing was avoided. Grossly hemolysed, icteric or grossly lipemic samples were discarded.

Measurement of serum IgM antibody against chlamydia trachomatis was done using ELISA method, following all the steps given by the manufacturer of ELISA kit (CHLM0070).

In the infants of upto 6 months of age with atypical features of lower respiratory tract infection, the seroprevalence of chlamydia trachomatis was found to be 24% by ELISA method. Test positivity in three defined age group of less than 2 months, 2 – 4 months and 4 – 6 months was 25%, 31.81% and 15% respectively. 75% of total infants positive for chlamydia trachomatis were of below 4 months of age.

These observations show that chlamydia trachomatis is an important cause of pneumonia below 6 months age group, having prolonged symptoms of lower respiratory tract infection.

In 50% infants positive for chlamydia trachomatis, duration of cough was prolonged for more than two weeks and association of duration of cough with chlamydia trachomatis positivity was found to be statistically significant.

56.3% of patients with chlamydia trachomatis etiology had some elements of conjunctivitis. Thus, while the presence of conjunctivitis was quite reliable as a marker of chlamydial
infection, but absence of conjunctivitis did not rule out infection with chlamydia trachomatis.

58% of infants positive for chlamydia trachomatis were afebrile. It shows that infection with chlamydia trachomatis is of low virulence and usually fever is absent in this infection.

Association of eosinophilia (i.e. absolute eosinophil count more than 300 per cu mm) with positivity of chlamydia trachomatis was found to be statistically significant. 83.3% of infants positive for chlamydia trachomatis had eosinophilia. This eosinophilia could be due to allergic response from chlamydial infection and prolonged cough in this infection could be due to allergic reaction.

About 80% of cases positive for chlamydia trachomatis, were born by vaginal route although this association was not found to be statistically significant. So, babies born by vaginal route are more prone to get the infection of chlamydia trachomatis.

75% of patients positive for chlamydia trachomatis did not have leucocytosis (i.e. leucocyte count more than 11000 per cu mm). Thus, it shows that infection due to chlamydia trachomatis is of low antigenicity.

X-rays of the infants positive for chlamydia trachomatis had variable findings. Most common finding in these X-rays was the patchy infiltrates. Besides that minimal infiltrates and hyperinfiltration were also found. The classical features of chlamydial pneumonia as hilar and perihilar infiltrates and reticular parenchymal infiltrates were not found in our study.
Thus, X-rays were not found to be much specific for chlamydial etiology.

Overall amongst the various clinical and laboratory parameters studied, significant association with disease etiology was seen with prolonged and distressing cough, conjunctivitis and increased absolute eosinophil count in blood.

Pneumonia due to chlamydia trachomatis do not respond to conventional antibiotics like – Amoxycillin and Cephalosporins. Macrolides (Erythromycin, Azithromycin, Clarithromycin and Roxithromycin) are the treatment of choice for this pneumonia; Quinolones (Ciprofloxacin and Ofloxacin) are also very effective. Duration of treatment in this pneumonia is 21 days, so Macrolides and Quinolones should be used for treatment of chlamydial pneumonia.
Conclusions

- Chlamydia trachomatis is an important causative agent of atypical pneumonia in infants of up to six months of age in Bundelkhand region.

- Cough of more than two weeks with mildly symptomatic illness is an important indicator towards chlamydial etiology.

- Eosinophilia is found to have significant association with chlamydia trachomatis pneumonia.

- Conjunctivitis also have some association with chlamydial pneumonia.

- Pneumonia due to chlamydia trachomatis usually have afebrile course.

- There are no typical findings on chest X-ray specific for chlamydial etiology.