Bronchiolitis: aetiology, pathophysiology and therapeutic management

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Acute viral bronchiolitis in young infants remains a cause of substantial morbidity and health care costs. It is the most common lower respiratory tract condition and the most common reason for the hospitalization of infants. A number of respiratory viruses have been associated with acute viral bronchiolitis although respiratory syncytial virus (RSV) remains the most frequently identified virus. The majority of affected infants have a mild self-limiting disease, while others have more severe illness and require hospitalization and,sometimes,ventilatory support. Bronchiolitis has an overall mortality rate of 0.2-0.5%, with 99% of deaths occurring in developing countries.

Bronchiolitis is a clinical diagnosis based on a typical pattern of rhinorrhoea, cough, poor feeding, tachypnoea, subcostal recession and auscultatory findings of wheezing and fine inspiratory crackles. There is a distinct seasonal pattern with a peak in incidences in autumn and winter.

Evidence-based reviews have suggested a limited role for diagnostic laboratory or radiographic tests in typical cases of bronchiolitis. A nasopharyngeal aspirate has been identified as the most sensitive methodfor virus detection. Pulse oximetry also provides valuable information about the severity of the disease and guides subsequent management.

Supportive therapy remains the major treatment option, as no other specific treatments to date haveshown to provide clinically significantbenefits. Minimal handling, oxygen supplementation, and appropriate fluid management (including nasogastric feeds if necessary) are the mainstay of therapy. Nasal suctioning can be helpful as well. Very young infants may require cardiopulmonary monitoring for apnoea. There is a wide variation in treatment for bronchiolitis, which has led to the development of evidence-based clinical practice guidelines for treatment. Bronchodilators are inconsistently used and have been advocated for certain subgroups of infants. Several large, recent trials have revealed a lack of efficacy for routine use of either bronchodilators or corticosteroids for the treatment of bronchiolitis. Preliminary evidence suggests a potential future role nebulized hypertonic saline.

Key words: bronchiolitis, infants, respiratorycondition.

The role of *Mycoplasma Pneumonia* infection in child wheezing disorders

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The study was aimed to evaluate the role of the specific serologic diagnosis of *Mycoplasma* infection and clinical peculiarities of bronchopulmonary diseases with recurrent episodes of wheezing in children.

Seventy-six children (ages 6 months to 7 years) with wheezing disorders (bronchial asthma and obstructive bronchitis) were included in our study. The diagnosis, classification of asthma, and asthma severity levels were based on GINA guidelines. The determination of *M. pneumonia* and *M. hominis* IgG, IgA, IgM antibodies were performed by using an enzyme-linked immunosorbent assay (Human, Germania).

Analysis of the serologic examination results showed that 56 patients had the *Mycoplasma* infection and 20 exhibited no signs of *Mycoplasma* infection. In I group (the *Mycoplasma*-positive group) 4 patients had bronchial asthma, and 6 patients with obstructive bronchitis had specific antibodies in diagnostic titers (IgM 0,35±0,01 (cut-off 0,25), IgG 0,33±0,13 (cut-off 0,30±0,03) and IgA 1,47±0,01 (cut-off 0,801), IgG 1,18±0,46 (cut-off 0,33±0,02) accordingly). In the remainder of the first group (47 children), 10 children had b\ronchial asthma and 36 children had obstructive bronchitis associated with acute pneumonia. Levels of specific antibodies consisted of: *M. pneumonia* (4 children) IgM 0,29±0,02 (cut-off 0,25), IgG 0,47±0,02 (cut-off 0,32) and *M. hominis* (4 children) IgA 0,25±0,15 (cut-off 0,24), IgG 1,03±0,25; cut-off 0,3±0,01 and in 2 children a mix infection (*M. hominis* and *M. pneumonia* IgG 0,80±0,2 (cut-off 0,28) and IgG 0,50±0,07 (cut-off 0,33) accordingly*)* (in the group with pneumonia and bronchial asthma) and *M. pneumonia* 0,45±0,06 (cut-off 0,34), IgG 0,44±0,02 (cut-off 0,35) and *M. hominis* IgM 0,34±0,09 (cut-off 0,30), IgG 0,97±0,17 (cut-off 0,29) (in the group with pneumonia and obstructive bronchitis).

In II group (the *Mycoplasma*-negative group) 4 patients had obstructive bronchitis and 16 children had pneumonia, including 6 children with associated bronchial asthma and 10 patients had pneumonia with obstructive bronchitis. The levels of specific antibodies was below the cut-off: *M. pneumonia* IgM 0,18±0,09 (cut-off 0,52±0,15), IgG 0,17±0,02 (cut-off 0,33±0,03), *M. pneumoniae* IgM 0,1±0,02 (cut-off 0,25), IgG 0,14±0,02 (cut-off 0,27) and in last group IgM 0,1±0,04 (cut-off 0,25) and IgG 0,17±0,04 (cut-off 0,29) accordingly.