The classical triad (anemia, hemoptysis, and pulmonary infiltrates) was found from early in the disease in only 4 patients. The majority of patients' disease was diagnosed by bronchoalveolar lavage, and 3 were diagnosed at necropsy. Eight patients died in a period of 1 to 3 years from the diagnosis. The clinical course was variable: treatment with corticosteroids alone was not effective because 12 patients continued to have recurrent bleeding. Three patients who received immunosuppressive agents had a better outcome.

CONCLUSIONS: IPH is a severe condition with variable prognosis and has a better outcome when diagnosis is made at an early age. We believe that it is necessary to include in the screening of any severe, recurrent, hypochromic anemia a well-interpreted chest radiograph and to look for hemosiderin-laden phages in bronchoalveolar lavage.

BLOOD LEVELS OF INTERFERON γ IN NEWBORNS AND CHILDREN WITH OR WITHOUT RESPIRATORY PATHOLOGY

Submitted by Juan Peuchot
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INTRODUCTION: There is evidence that long-term exposure to bacterial endotoxins at an early age is related to a protective effect for the development of allergic sensitivity. The endotoxin would be a powerful inductor of type I cytokines. Interferon γ (IFN-γ) would regulate the production of type II cytokines. There would be an increase of interleukin 4 and a decrease of IFN-γ in the airway and peripheral blood.

OBJECTIVE: The objective of this study was to determine in blood the levels of IFN-γ, immunoglobulin E, and eosinophil count in newborns and children with or without recurrent wheeze.

METHODS: Fifty-one newborns were recruited. The sample was processed through enzyme-linked immunosorbent assay method to determine levels of IFN-γ. In addition, 53 children with or without recurrent wheeze were recruited as well as 53 healthy children.

RESULTS: A total of 157 patients divided into 3 groups were analyzed. Group A: 51 newborn patients; group B: 53 patients who had recurrent wheeze and were aged 4 to 10 years; group C: 53 patients who had no history of wheeze and were aged 4 to 10 years. The average value of IFN-γ in children with a history of wheeze was 0.48 UI/mL. They had average values of immunoglobulin E of 7.89 and eosinophils of 9%. Children without history of wheeze had average values of IFN-γ of 0.91 UI/mL; newborns had average values of IFN-γ of 1.10 UI/mL.

CONCLUSIONS: IFN-γ could be used as an early diagnostic marker in atopic diseases.

INTRAVENOUS MAGNESIUM FOR TREATING ACUTE EXACERBATIONS OF ASTHMA IN CHILDREN: A SYSTEMATIC REVIEW

Submitted by Oliver Rackham
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INTRODUCTION: Inhaled bronchodilators and systemic corticosteroids are the mainstay of treatment for acute exacerbations of asthma. A systematic review of the use of magnesium has been published, but the results are incomplete and the recommendation is "weak."

OBJECTIVE: The objective of this study was to determine the effect of intravenous magnesium in children with acute asthma.

METHODS: Randomized, controlled trials were identified by searching the Cochrane, Medline, Embase, CINAHL, and ProQuest databases. Other sources were used to identify "gray literature." Randomized, controlled trials in which children with an acute exacerbation of asthma were treated with intravenous magnesium versus placebo were included. Data were extracted from the full papers, and methodologic quality was assessed using a scale from 0 to 5.

RESULTS: Six studies involving 215 patients were included. Hospital stay was reduced in the magnesium-treated group. The percentage improvement in the percentage predicted peak expiratory flow rate was 43.5% greater in the treatment group. Significant differences were also seen in the forced expiratory volume in 1 second (weighted mean difference: 74.5%) and the forced vital capacity (weighted mean difference: 64.5%). There was improvement in asthma scores in 3 of the 4 studies that reported this outcome. There were no clinically significant differences in vital signs. No major adverse events were reported.

CONCLUSIONS: Intravenous magnesium is safe and beneficial as adjuvant therapy in the treatment of children with moderate to severe acute asthma. Magnesium should be for children who have moderate to severe acute exacerbations of asthma that do not respond to nebulized β-2 agonist.

DIAGNOSTIC BRONCHOALVEOLAR LAVAGE FOR PULMONARY FUNGAL INFECTIONS IN CRITICALLY ILL CHILDREN

Submitted by Malak Shaheen
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INTRODUCTION: The incidence of pulmonary fungal infection is increasing worldwide, particularly in critically ill patients.
OBJECTIVE: The objective of this study was to assess bronchoalveolar lavage (BAL) as a diagnostic specimen for clinically and radiologically suspected fungal pneumonia in critically ill children.
METHODS: Thirty-five children who were admitted to the PICU of Ain Shams University because of their critical illness were included. All children underwent full medical history; thorough clinical examination, including general and local chest examination and basic laboratory investigations (from that, the Pediatric Risk of Mortality [PRISM] score was calculated to evaluate the critical illness severity); chest imaging; and bronchoscopic collection of BAL and microbiological assessment of BAL and blood using direct microscopic examination, cultured on Sabouraud dextrose agar, and fungal antigen detection using the enzyme-linked immunosorbent test for both *Aspergillus galactomannan* antigen and *Candida mannan* antigen.
RESULTS: Pulmonary fungal infection was documented in 77% of the studied children. BAL investigations proved to have a higher diagnostic yield in comparison with blood. Positive fungal antigens in BAL fluid were significantly higher than positive BAL fungal cultures in studied children. Analysis of the risk factors for fungal infection among the studied patients revealed that prolonged PICU stay (≥1 week) and high PRISM score (mean: 35.9 ± 6.46) were significant risk factors for fungal infection.
CONCLUSIONS: BAL fluid investigation has a significantly higher diagnostic value for pulmonary fungal infections than that of the blood. The results may be further improved especially if both culture and antigen fungal detections are combined.

COMPARISON OF THE 2 BRONCHIAL PROVOCATION TESTS OF DIFFERENT DOSAGE CONCENTRATION GRADIENTS FOR INFANTS

Submitted by Ying Huang
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INTRODUCTION: Bronchial provocation tests (BPTs) assist in diagnosing and evaluating the curative effect of asthma.
OBJECTIVE: The objective of this study was to compare the sensitivity, reliability, and safety between 2 tidal breathing methods in BPT.
METHODS: Sixty-five infants, including those with asthma and chronic cough, were divided into groups A and B at random. BPT by the improvement of tidal breathing method was performed in group A (35 infants), and the traditional tidal breathing method was performed in group B (30 infants). In 10 normal infants (control subjects), the traditional tidal breathing method was used. In addition, we observed arterial oxygen saturation, respiratory system resistance, %T-PF, percent of tidal volume of peak tidal expiratory flow, and lung symptoms and monitored the vital sign and adverse effects of the test.
RESULTS: Results of the BPTs for all children with asthma were positive. The positive rates for children with chronic cough were 69.57% and 60.00% in groups A and B, respectively; the results of BPTs in control subjects were completely negative. There was no significant difference in positive rate, and both methods had a similar degree of airway hyperresponsiveness; however, in group A, the effect was of shorter duration and the test was more efficient. During the BPT, 6 infants in group A and 9 in group B had cough, but none exhibited an acute asthma episode.
CONCLUSIONS: The improved tidal breathing method, used as a BPT, outweighs the traditional method in sensitivity, specificity, efficiency of detection, dosage of medicine, and safety.

EVALUATION OF TUBERCULIN SKIN TEST IN UNVACCINATED 0- TO 7-YEAR-OLD CHILDREN OF NORTHERN GREECE

Submitted by Georgia Zardava
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INTRODUCTION: The tuberculin skin test (TST) is an important tool in the diagnosis of tuberculosis in children.
OBJECTIVE: The purpose of this study was to evaluate the proportion of 0- to 7-year-old children with induration of 5 to 9 or ≥10 mm after TST.
METHODS: During the 5-year period 2001–2005, 65401 0- to 7-year-old children (50.2% female) were enrolled in this study and TST was performed before BCG vaccination. Mantoux reaction and the extent of induration of the transversal diameter were evaluated. Among 65 401 children, 8018 were 0 to 5 years of age (group A) and 57 383 were 6 to 7 years of age (group B).
RESULTS: In group A, 19 (0.23%) children had induration within 5 to 9 mm (mean diameter: 6.81 mm) and 42 children (0.52%) had induration within 10 to 25 mm (mean: 14.4 mm). In group B, 62 (0.1%) children had induration within 5 to 9 mm (mean: 7.27

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Pediatrics 2008;121;S159
DOI: 10.1542/peds.2007-2022FFFFFFF

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