PS-372 DIFFUSE FATTY INFILTRATION IN STRESS-RELATED THYMIC INVOLUTION: AN INDEPENDENT FINDING FOR PAEDIATRIC INFECTION

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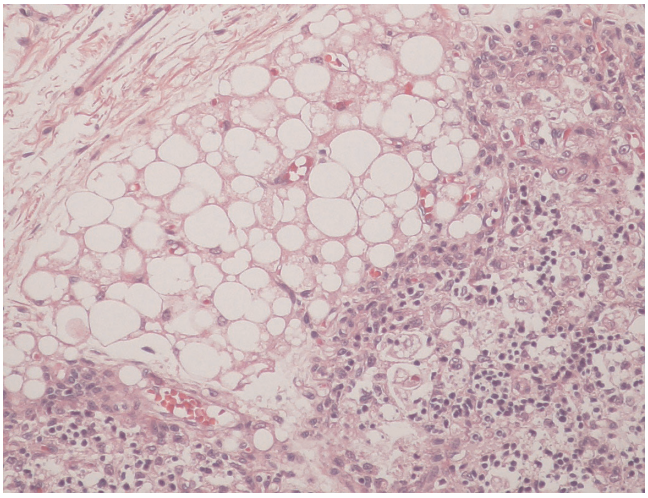
Background and aims Fatty infiltration is known as a physiologic hallmark of thymic involution, starting at puberty (age-related involution). However, the knowledge of fatty infiltration in thymuses whose paediatric patients suffering from acute illness (stress-related involution) has never been studied. The purpose of this work was to evaluate the frequency and degree of fatty infiltration and to correlate the degree of fatty infiltration with the severity of involution in thymic tissues belonging paediatric patients who died from various causes of illness.

Methods Thymic tissues from paediatric autopsy series were collected and processed for histopathologic examination. The degree of fatty infiltration was divided semi-quantitatively as absence, minimal (<5%), occasional (5–50%) and diffuse (>50%). The severity of thymic involution was graded as 1 (resting state), 2 (more thymic lobule separation) and 3 (advanced stromal fibrosis).

Results Fatty infiltration (Figure 1) was found 36/130 cases (28%) and tended to accumulate in grade 3 thymic involution ($p = 0.01$). In most cases, the degree was minimal (11 cases; 9%) or occasional (18 cases; 14%) and no statistical correlation with any clinical information. There were 7 cases (5%) showing diffuse fatty infiltration and all of them died from infection (bronchopneumonia = 3, meningitis = 2, acute myocarditis with abscesses = 1, acute pyelonephritis = 1), regardless of specific organism, patient age or duration of illness.



Abstract PS-372 Figure 1 Thymic fatty infiltration.

Conclusion In stress-related thymic involution, the frequency of diffuse fatty infiltration was rare, but such change was an independent finding associated with paediatric infection.

PS-373 OPTIMISING A DIAGNOSTIC ALGORYTHM IN PATIENS PRESENTING FOR ADENOPATHY IN PRIMARY CARE SETTINGS

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Aim To describe the etiologic spectrum, clinical characteristics and evaluate the adequateness of the tests performed in order to establish diagnosis of adenopathies in children.

Materials and method Our group analysed 279 children with adenopathies consulted in the primary care paediatric clinic in a 4 years period 2009–2013. There were noted: the presence and localization of the adenopathies, the diagnosis, the tests performed and the outcome.

Results Out of the 279 cases, 106 represented unspecific multiple adenopathies following past diseases and had no clinical significance. 77 cases were confirmed to be viral unspecific infections of the upper respiratory system, 16 cases were confirmed as Infectious mononucleosis, 22 cases were Acute bacterial Tonsilitis and 11 were confirmed as Group A Streptococcus Tonsilitis. Further investigation of cases with large adenopathies of unknown origin revealed less common etiologies as Toxocara and Toxoplasma infections. There was 1 case of Hodgkin lymphoma easily diagnosed based on clinical characteristics, confirmed and treated in the oncology hospital. 7 cases presented with typical left axilar satellite adenopathy following BCG vaccination. The history and clinical signs suggested the diagnosis in all the cases. In 27 of the cases with unique large adenopathies the parents refused further diagnostic tests.

Conclusions A complete history and a meticulous clinical examination represented the most important steps in establishing the etiologic diagnosis of the adenopathies in children. Specific blood tests and other investigations must be used with caution, in order to avoid unnecessary painful diagnostic procedures and unjustified costs.

PS-374 A COMPARISON OF TREATMENT AT HOME OR IN HOSPITAL FOR MODERATE/SEVERE CELLULITIS IN CHILDREN

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Background and aims Adults with cellulitis are commonly receive IV antibiotics via hospital-in-the-home (HITH). Children are usually admitted to hospital. Royal Children's Hospital (RCH) HITH and offers once daily IV ceftriaxone for cellulitis. Concerns remain for some physicians about its anti-staphylococcal activity. We aim to compare the clinical features and outcomes of patients with cellulitis admitted to hospital with IV flucloxacillin to those treated via HITH with IV ceftriaxone.

Methods A retrospective chart review of patients with cellulitis treated with IV antibiotics. Exclusions- complicated cellulitis (abscess, orbital cellulitis, post-operative cellulitis, bites and immunosuppression). Demographics, clinical and microbiological features, antibiotic management and outcomes are related to two groups: inpatients treated with IV flucloxacillin and HITH patients treated with IV ceftriaxone.

Results Over 17 months (2012–2014), 745 children presented to ED with cellulitis: 353 (47%) received IV antibiotics; 169 were excluded (complicated cellulitis, comorbidities, misdiagnosis or miscoding), leaving 184. 47 (26%) were admitted to HITH and 137 (74%) were admitted as inpatients. Initial treatment was IV ceftriaxone in 41 (87%) of HITH patients and IV flucloxacillin in 103 (75%) of inpatients.

HITH patients were older, more likely to have failed prior oral antibiotics, less likely to have periorbital rather than limb cellulitis. Inpatients required longer IV treatment. Readmission rates, adverse events and rates of change of treatment were similar.

Conclusion Some children with moderate/severe cellulitis can be treated via HITH with IV ceftriaxone in this non-randomised study however further prospective work is required to define the most appropriate sub-group.

Primary Care: Infections

PS-374a PREDICTORS OF BACTERIAL COMMUNITY ACQUIRED PNEUMONIA IN CHILDREN: PRELIMINARY RESULTS FROM CAPES (COMMUNITY ACQUIRED PNEUMONIA AETIOLOGY STUDY)

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Background The majority of childhood community acquired pneumonia (CAP) in developing countries is believed to be bacterial in origin. However, the predictors of bacterial versus non-bacterial (viral) pneumonia are not clearly defined. This is essential for judicious use of antibiotic therapy.

Objective To determine the microbiologic aetiology of childhood CAP in India, and determine the predictors of bacterial pneumonia.

Methods Children (1 month^{-1}2 years) fulfilling World Health Organisation criteria for pneumonia (cough or difficult breathing, and tachypnea; for <7 days) were enrolled through a two-year (April^{2}011-March2013) surveillance programme. Pneumonia severity was assessed using WHO criteria. Nasopharyngeal aspirate (NPA) culture, blood culture, IgM anti-Mycoplasma pneumoniae and IgM anti-Chlamydia pneumoniae were examined. Demographic characteristics, clinical profile, presence of 'risk factors', clinical examination findings, and radiographic features were evaluated as predictors of bacterial aetiology.

Results 2333 children with CAP were enrolled. 61% were 5–12 years. Figure 1 presents the pneumonia severity. Bacterial pathogens were isolated in 12.7% NPA cultures with Pneumococcus (n = 223), Staphylococcus aureus (n = 27), and Haemophilus influenzae (n = 23) predominating. Blood culture yielded bacteria in only 3.3%. S. aureus (n = 25), Gram negative bacilli (n = 21), and Alpha-hemolytic Streptococcus (n = 15) predominated. Pneumococcus (n = 3) accounted for a minority. Serology for Mycoplasma and Chlamydia were positive in 4.4% and 1.6% samples respectively (Figure 2A,2B).

Table 1 highlights the unadjusted odds ratio for various factors explored as predictors of bacterial aetiology. Exposure to over-crowding at home appeared to be associated with a lower risk of bacterial aetiology, whereas exposure to tobacco smoke was associated with higher risk. None of the other factors predicted bacterial aetiology.

Conclusion The majority of childhood community acquired pneumonia appears to be non-bacterial in origin. Bacterial aetiology could not be predicted by demographic, clinical, or radiographic features, that are usually believed to be associated with bacterial aetiology.

Ventilation

PS-375 CAN LUNG ULTRASOUND CHANGE RESPIRATORY DISTRESS MANAGEMENT IN NEWBORNS?

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Background Lung ultrasound (LUS) has become an important method for diagnosis and monitoring of lung disease. Advantages over chest radiography include precision, low cost, simplicity, bedisde care and specially avoids radiation.

Respiratory failure in late preterm infants (>32 weeks gestational age) and term infants is usually based on clinical and radiological (x-ray) manifestations.

However etiologic diagnosis in the early stage is difficult (respiratory distress syndrome (RDS), surfactant consumption or transient tachypnea) raising doubts in treatment (ventilation, surfactant administration, antibiotics) and short and medium term evolution.

Aims 1. Assess whether LUS is as effective as the usual clinical diagnostic methods in the neonatal respiratory distress in late pre terms infants and term infants.

2. Check if initial LUS has a prognostic value in the need for respiratory support.

Materials and methods From January through April 2014 were enrolled all late preterm infants and term infants consecutive admitted in NICU with respiratory distress (prenatal malformation diagnosis were excluded).

A blind neonatology performed LUS at adminission and through first hours income without interrupting routine neonatologist clinical management.

Abstract PS-375 Table 1

LUS diagnosis	Number of cases	Concordance with clinical diagnosis (%)	x-ray (%)	performed	Non invasive ventilation (NIV)	Hours of NIV (mean)	Mechanical ventilation (MV)	Hours of MV (mean)	Surfactant
NNT	28	93% NNT	96%		96%	7.4	0%	0	0%
RDS	9	100% RDS	100%		100%	116.8	78%	84.3	89%
MAS	2	100% MAS	100%		100%	60	100%	84	0%
BL+	3	33% NNT	100%		100%	12.6	0	0	0%
BL	2	50% NNT	100%		50%	4	3.5	0	0%
AL	5	100% Normal	80%		100%	3.5	20%	3	0%
NT	1	100% NT	100%		0%	1	0%	0	0%