neonatal characteristics (OR 1.97; CI [1.30-2.98]). In contrast, the smoking-related increased risk of apnea was no longer significant after adjustment for gestational age.

Conclusion: Prenatal nicotine (snuff) is associated with a higher risk of neonatal apnea than smoking. This implies that it is not safe to recommend nicotine replacement therapy (NRT) for smoking cessation during pregnancy.

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LONG-TERM CARDIO-RESPIRATORY REGULATION IN CHILDREN WITH RETT SYNDROME

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Background: The cardiac and respiratory function requires an intricate coordination of afferent/efferent signals at several levels to secure homeostasis. Rett syndrome is characterised by a functional disintegration of physiological functions. Autonomic function in Rett syndrome has been studied mainly during short time spans (minutes-1 hour). In order to capture the full complexity of the autonomic function - a long-term study of the cardio-respiratory regulation was performed.

Methods: Patients with Rett syndrome in the Stockholm area were studied during one week in their home environment (n=15). Heart rate and breathing were recorded via standard three-lead ECG electrodes. The depth and frequency of respiratory movements were measured via changes in impedance. Oxygenation was measured by pulse oxymetry. Care takers were asked to fill out a form during the monitoring enabling us to analyze the correlation between behaviour and cardio-respiratory reactions.

Results: All subjects revealed respiratory dysfunction and a majority had bradycardia and/or tachycardia. In accordance with our previous findings, disturbances in cardio-respiratory function were present both when awake and asleep. Interestingly, there were pronounced variations in cardio-respiratory regulation from day to day and even from hour to hour in an individual patient. Furthermore, we also observed variations in cardio-respiratory events between individuals and situations.

Conclusions: Cardio-respiratory function in children with Rett syndrome is characterised by dramatic instability during wakefulness and sleep and differ among individuals. Cardio-respiratory regulation varies from hour to hour and between different situations in the individual Rett girl. Therefore, a long-term monitoring is decisive for adequate diagnostics and treatment.

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HEALTH STATUS OF CHILDREN ADOPTED FROM KAZAKHSTAN IN BELGIUM

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Objectives: evaluate the demographic characteristics and health status of children adopted from Kazakhstan at arrival in Belgium.

Material and methods: Retrospective review of data gathered at the Institute of Tropical Medicine (ITM).

Results: 17 children were seen in the ITM between from 01-2008 to 11-2009. Reason for adoption: 58% renunciation, 24% abandoned, 12% foundlings, 6% true orphans. All children lived in an orphanage prior to adoption. 29% were 'special needs' children. Age at arrival : 0,17 and 73 months; in 29% the birth date was uncertain.

Height z-scores and weight z-scores ranged from -4,38 to 0,82 (mean -2,02) and from -3,34 to 1,07 (mean -0,98). 47% of the children were stunted, 12% wasted.

The immunization status was complete in 42% and unknown in 29% of the cases.

Feces examination revealed *Ascaris lumbricoides* in 1/17 & *Opisthorchiasis* in 1/17. 3/7 of the children had serological evidence of *Strongyloides stercoralis* infection; thus far this has not been described in Kazakh children.

47% of the adoptees were in good health at initial examination. Dysmorphic features and malformations were present in 29%.

Conclusion: a considerable number of children had malformations, parasitic infections, or other problems. Stunted growth was present in a striking

number of adopted Kazakh children. As most were not underweight and nutritional supply is adequate, this could be attributed to emotional deprivation in orphanages.

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INVASIVE GROUP A STREPTOCOCCAL INFECTIONS: THE LIVERPOOL EXPERIENCE 2009

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Background: Winter '08-'09 saw an increased incidence of invasive Group A Streptococcus infections (iGAS) above seasonal average, with an unusually high fatality rate (HPA data 25%).

Method: Eleven patients presented to our PICU between November 2008 and June 2009. Many of these children deteriorated very quickly despite full supportive measures, often after initial stabilisation. We aim to highlight the lessons we have learnt in their management.

Results: We treated 10 cases with toxic shock syndrome and 2 cases of necrotising fasciitis (NF) due to iGAS. 1 patient had both. Risk factors were identified in 9/11 (2 recent Varicella, 2 neonates, 3 chronic disease, 7 NSAIDs and 1 trauma). All patients with septic shock were under 9 years, with 4/10 (40%) under 1 year (European surveillance data shows risk highest under 1 yr). Both patients with NF only stabilised after extensive surgical debridement. Our male: female ratio was 1:1.6 which is at odds with surveillance data suggesting higher rates in males. *Emm* type reflected those circulating in the community (1,3,4,6,12,18, 75 & 89). 3 patients (27%) have died despite aggressive PICU management (including CVVH, HFOV), none of these patients received intravenous clindamycin. All those who survived have been treated with clindamycin in addition to cefotaxime. Clindamycin decreases cytokine and exotoxin production and is recommended in iGAS in addition to cefotaxime or benzylpenicillin.

Conclusion: We have learnt to act quickly when treating suspected iGAS with aggressive management (adding clindamycin to cefotaxime), and involving surgical team for early debridement when NF suspected.

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JUVENILE IDIOPATHIC ARTHRITIS (JIA); HOW DO CLINICIANS DEFINE REMISSION AND WITHDRAW ETANERCEPT?

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Aims: To determine how clinicians define disease remission in JIA, how long is required in remission prior to DMARD withdrawal, and what strategies are used for etanercept withdrawal.

Methods: A 10 part, piloted questionnaire was sent by email to 86 consultant members of BSPAR with one reminder.

Results: 31 clinicians (36% response rate) completed the questionnaire. To define remission, all clinicians required an active joint count of 0, 96% required no extra-articular features and 93% required no active uveitis. More than 75% rated these criteria as 'very' or 'extremely' important. ESR and CRP were less important, with only 41% rating these as 'very' or 'extremely' important as these values were deemed too non-specific. There was no agreement on other criteria. The duration of remission before withdrawing DMARD treatment varied from 6 months to 2 years with 41% responders stating 1 year and 41% 2 years. The duration required was most significantly affected by a previous failed trial off DMARDs, although only 45% rated this as 'very' or 'extremely' important. The method of etanercept withdrawal varied, half weaning to once weekly injections before stopping and 39% stopping from full dose twice weekly. 17 clinicians had withdrawn etanercept entirely. 65% of clinicians had restarted or increased etanercept in some patients.

Conclusions: Clinicians are not using the consensus remission criteria in full. Most clinicians required at least 1 year in remission before DMARD withdrawal. Several methods of etanercept withdrawal were used. 65% of clinicians had restarted or increased etanercept because of disease relapse.