

of answers were found to fall under 3 groups : 500g-1000g, 1500g-2000g & 32-34wks.

Conclusions:

1. Comparing the ET placement in CXRs between gestation and weight, this study showed that gestation was more accurate.
2. The knowledge of correct ET size & placement needs improvement.
3. We suggest table of ET size and length against gestation and weight should be easily accessible.

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CONGENITAL DIAPHRAGMATIC HERNIA ASSOCIATED WITH ESOPHAGEAL ATRESIA: A CHALLENGING COMBINATION FOR THE NEONATOLOGIST AND THE PEDIATRIC SURGEON

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Introduction: Congenital diaphragmatic hernia (CDH) together with esophageal atresia (EA) are associated with different malformations in up to 71%. In epidemiologic studies the prevalence of CDH was 0.13 , of EA 0.27, of both combined 0.005 per 1000 births.

Patients: In our single institution center for CDH we treated 425 CDH patients. Associated malformations occurred in 39.5%, left sided hernia in 81.6%, right sided hernia in 16.1%, both sided in 2.3% of all patients. 5 patients suffered from EA together with CDH.

Results: Of the patients treated since 1996 we had 5 patients with CDH and EA. One patient had a trisomy 18, one patient had severe lung hypoplasia, both died soon after birth. Chronic lung disease led to death at the age of three years in one patient. Two patients survived. Ventilation and perfusion difficulties of hypoplastic lungs occurred in every patient due to the tracheoesophageal fistula. In all patients except the trisomy 18 patient we closed the tracheoesophageal fistula quickly after birth. We preferred temporary banding of the distal esophagus and early closure of the diaphragmatic defect from an abdominal access. In one case a severe hypoxemia

occurred directly after operation. We decided to withdraw an ECMO rescue treatment. Esophageal atresia was reconstructed by thoracotomy in a later stage.

Conclusion: The combination of EA and CDH is a challenging interdisciplinary problem. The high mortality is due to the combination of these malformations. Rescue treatment by ECMO has to be discussed because there exists a high risk of later pulmonary morbidity.

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LUNG FUNCTION IN HYPEROXIA EXPERIMENTAL MODEL OF NEWBORN RATS

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Background and aims: Study of lung function in an experimental model of bronchopulmonary dysplasia (BPD) induced by hyperoxia in newborn rats.

Methods: The subjects of this study were two litters of Sprague-Dawley rats. Group C (Control): exposure to room air. Group H (Hyperoxia): exposure to 60% of Oxygen from birth and during 14 days. The lung function tests were performed on day 15. Respiratory functional evaluation through a system of total body plethysmography (Buxco Electronics, Troy, NY, USA): non-invasive analysis system, with the animal conscious and free, housed in a sealed container. Changes of pressure and volume in the cabin due to respiratory movements are monitored and used to calculate ventilatory parameters using a computer application.

Results: Two litters with 14 offspring each were studied. Pulmonary function tests showed a decrease in tidal volume (H: 0.098 ml, C: 0.125 ml, p 0,000) with offsetting increase in respiratory rate (H: 310 rpm; C: 266 rpm; p 0,03) without differences in minute volume (H: 29.92 ml / min, C: 32.75 ml / min; p 0,186). The index of airway obstruction (Penh) is altered in the litter exposed to oxygen (p 0, 026).

Conclusions:

- Validation of an experimental model of hyperoxia (DBP) in newborn rats.

- Functional respiratory non-invasive test which mainly showed a decrease in tidal volume with increased respiratory rate volume.
- Non invasive total body plethysmography is an adequate method to study lung function in this animal model.

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SERUM YKL-40 AND ASSESSMENT OF ASTHMA SEVERITY IN EGYPTIAN CHILDREN

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Background: Circulating YKL-40 levels regulated by Polymorphisms in the CHI3L1 (chitinase 3-like 1-proteins) gene. This gene represents novel asthma susceptibility gene. Furthermore, circulating YKL-40 levels correlated positively with thickening of the lung sub-epithelial basement membrane, frequency of rescue inhaler use, and deterioration in pulmonary function (PF) in European asthmatic ethnics.

Methods: We quantified serum YKL-40 levels in two groups of asthmatics: One group with mild to moderate asthma, and one with severe asthma. Serum YKL-40 was measured by enzyme-linked immunosorbent assay (ELISA) kits (Quidel). Clinical scoring of asthma severity by Pediatric Asthma Score (PAS) and pulmonary functions were performed.

Results: The circulating levels of YKL-40 were significantly elevated in severely asthmatic Egyptian children (151ng/ml) compared with the other group (72ng/ml). YKL-40 levels were correlated significantly to PAS ($r=0.34$, $p<0.05$), and to reduced pulmonary function ($r=0.32$, $p<0.05$).

Conclusion: YKL-40 is found in increased quantities in the sera of severe asthmatics, and correlated significantly to PAS and PF deterioration. YKL-40 is considered a promising biomarker for asthma severity and pulmonary remodeling warranting further study as a potential novel pathway to disease management.

Abbreviations: CHI3L1; chitinase 3-like 1-proteins, PF; pulmonary function, PAS; Pediatric Asthma Score

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RAPID DIAGNOSIS OF HAEMOPHILUS INFLUENZA TYPE B PNEUMONIA BY POLYMERASE CHAIN REACTION IN UNVACCINATED EGYPTIAN CHILDREN UNDER FIVE YEARS

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Background: Haemophilus influenza type B (Hib) is an important cause of meningitis,

Community-acquired pneumonia (CAP), and septicemia. Hib disease results in significant morbidity and mortality among children. The burden of Hib pneumonia in Egypt is unclear thus there are no scheduled programs for Hib surveillance, case definition, diagnostic modalities or even vaccination.

Aim: To highlight the magnitude of Hib pneumonia among Egyptian children, and to assess their pattern of antibiotic sensitivity.

Methods: The sera of 100 patients of Egyptian unvaccinated children below five years, presented with community-acquired pneumonia were investigated for Hib pneumonia by Polymerase chain reaction (by ELISA) and blood cultures.

Antibiotic sensitivity was done for Hib isolates by the use of disc-diffusion method.

Results: Hib pneumonia was diagnosed in 31/100 of patients by PCR patients, 12 of them were culture positive.

The highest resistance of Hib isolates was to cotrimoxazole (75%) and ampicillin (66.7%). **The highest sensitivity** was to ceftriaxone (91.7%).

PCR had sensitivity of 100%, specificity 74.4 %, Positive Predictive value 39%, Negative Predictive Value 100% and diagnostic accuracy 81% compared to blood culture.

Conclusion: The frequency of Hib pneumonia among unvaccinated children in Egypt is alarming.

Combination of PCR and blood culture is necessary to achieve early diagnosis and appropriate antibiotic selection for early diagnosis and better management of Hib pneumonia.