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INNOMINATE ARTERY COMPRESSION OF THE TRACHEA: INTRAOPERATIVE ELECTROENCEPHALOGRAPHIC MONITORING IN DIVISION AND REIMPLANTATION TECHNIQUE

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OBJECTIVES: Innominate artery compression of the trachea (IAT) has been treated by artery suspension (arterioplasty) or by division and reimplantation. We used this technique and to avoid cerebrovascular accidents we used intracranial electroencephalographic monitoring (EEOG) before and during innominate artery clamping.

METHODS: Since 1983 5 patients were referred to our hospital for treatment of recurrent pneumonia, epistaxis, epistaxis and progression severe stridor or obstruction. All patients were evaluated with bronchoscopy, angiography and echocardiography. Bronchoscopy detected partial compression of trachea by an anomalous origin of innominate artery. Because of symptoms severity all patients were scheduled for innominate artery division and reimplantation. Their age at the time of operation ranged from 4 to 48 months, with a median age of 17 months. Weight at operation was 9.1 ± 4.3 kg. A continuous EEOG monitoring started at beginning of surgery for a baseline study. After innominate artery mobilization a 3 minutes clamping tested cerebral ischaemia. In one patient EEOG showed persisting severe ischaemia and this patient underwent arterioplasty. Then, the remaining 4 patients underwent division and reimplantation technique with a mean clamping time of 18.9 ± 1.7 minutes.

RESULTS: In hospital mortality and morbidity was 0%. Intraoperative and postoperative bronchoscopy confirmed resolution of tracheal compression. Symptoms gradually resolved in all patients and at follow-up no pt's experienced any episode of airway obstruction. Three pt's underwent CT-scan at 3 month to assess innominate artery patency.

CONCLUSIONS: Infracranial EEOG monitoring in division and reimplantation technique avoids stroke's risk. Innominate artery stenosis may be studied by CT-scan 3D.

PERINATAL AND INFANT EARLY Atherosclerotic coronar lesions RELATED TO MATERIAL SMOKING

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Background: The observations reported in the literature regarding the fetal origin of coronary artery lesions are rare and controversial.

Aims: To identify the features of early atherosclerotic coronary artery lesions in late fetal Stillborns and infants and the possible atherogenic role of maternal cigarette smoking.

Methods: We examined by autopsy 22 unexpected fetal deaths and 35 sudden infant death syndrome victims. In 23/28 of the cases mothers were smokers. Serial cut sections of major epicardial coronary arteries were stained with hematoxylin eosin, Azan, Alcian blue and alcian orcein, and were immunohistochemical stained for CD68, CD34, -SMA-Ac, PCNA, c-fos, and apoE.

Results: In 10/12 of fetuses and in 15/16 of infants of smoking mothers, multifocal coronary lesions of varying entity were detected. Only in 5 cases (2/10 fetuses and 3/10 infants) arterial lesions were observed in infants of non-smoking mothers (p<0.0001). Abnormalities ranged from focal areas with mild medial thickening in prenatial life to early severe focal plaques in infants. Smooth muscle cells (SMA) showed loss of polarity, infiltrating subendothelium, mostly with rupture of the internal elastic lamina. No neoplastic proliferations were observed. These early lesions, presented c-fos gene activation in the SMCs of the tunica media, and in some of these, positivity of the SMCs for apoE was also observed, suggesting that c-fos gene over-expression might play a proliferative process, as testified by the PCNA positivity.

Conclusion: Early intimal alterations of the coronary arteries are already detectable in the prenatial and infancy period and are significantly associated with maternal cigarette smoking.

KAWASAKI DISEASE IN INFANTS: CLINICAL AND CARDIOVASCULAR COMPLICATIONS

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Purpose of the study: To evaluate the incidence, clinical and laboratory features of Kawasaki disease (KD) in infants and analyze its presentation in incomplete forms.

Method of investigation: Retrospective cohort analysis of all KD patients between January 1997 and March 2000. Evaluation of demographic, clinical presentation, laboratory and echocardiographic variables. Fisher test for median comparison and Chi-square for risk group analysis (infants and more than one year of age). Statistical significance p<0.05.

Results: 22 KD patients less than one year (19%, 14 (63%) with incomplete presentation (p<0.05). The most common clinical signs were: generalized rash (82%), oral involvement (54%) and conjunctival injection (48%). 10/46 had cardiac complications, 6 of which were incomplete KD (p=0.05). Cardiac complications included: coronary aneurysms (6 patients), periadventitial effusion (5 patients), coronary artery (4 patients), coronary thrombus formation in 2 patients. There was only one death in this group. Comparing less than and greater than one year of age there was a significant difference for incomplete presentation of KD in infants. There were no significant differences in cardiovascular complications incidence, echocardiographic or laboratory presentation.

Conclusions: 43% of KD patients in this group were infants. In this age group incomplete form of presentation is more frequent and is associated with more severe forms of cardiovascular complications.