

Coarctation of aorta, 10 years of clinical epidemiological study, diagnostic and therapeutic considerations

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Introduction: Our study is a clinical epidemiological retrospective analysis of coarctation of the aorta in a 10 year follow-up (2001-2011).

Methods and results: The study includes 201 children, 35,8 % girls and 64,2% boys, with an average age of $28,57 \pm 49,37$ months (0,1- 204). They are categorized in 4 age groups: <1 month, 1 month – 1 year, 1 year – 6 years, >6 years. Isolated CoA was found in 62,2% patients; 16,42% preductal and 45,77% postductal. CoA with an additional heart defect was found in 37,81% patients; 15,32% with VSD, 13,93% within a complex heart defect, 5,47% within the Schone syndrome, and 2,49% with a dilatative cardiomyopathy. Clinical symptoms are analyzed in detail according to age groups; tiredness, intense perspiration and dispoic difficulties are a dominant feature in lower age groups (newborns and infants), while claudications, headaches and epistaxes are typical in older children. In the case of as many as 61 (30.35%) patients diagnosis was missed on the previous cardiological examination. In 20 (9,95%) patients coarctation is found within the known syndromes (Turner, Noonan, Williams Beuren, Ellis van Creveld, partial trisomy 18, fetal valproate syndrome). Echocardiography was performed in all patients, and in 45 (22, 38%) it was the only diagnostic procedure. Altogether, 123 heart catheterizations, 38 MSCTs and 15 MRs were performed. The gradient on the place of coarctation before surgery or emergency procedures measured in 132 (65,67%) patients was $57,99 \pm 18,68$ mmHg (20-100 mmHg). In 82 (40,8 %) patients a bicuspid aortic valve was found. Average age at the time of surgery was $27,92 \pm 47,98$ months (0,1-204). In 84,1 % patients a cardiosurgical intervention was performed, in 54.2 % T-T anastomoses, in 15.9 % balloon dilatation or stent implantation. Fatal outcome occurred in 1,99% children, all newborns or infants.

Conclusion: Coarctation of aorta is still diagnostic and therapeutic challenge depending of its different expressions, range of pathological changes on the aortal arch, relation towards other organs (ductus, subclavian arteries), and association with other complex heart defects, including complex anomalies. All these factors determine the clinical picture, diagnostic and therapeutic approach, as well as the course of the illness itself.