

P. Pediatrics

Documentation of Tricuspid Regurgitation by Radionuclide Angiocardiology

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A diagnostic study of tricuspid regurgitation and malformed tricuspid valve was performed by radionuclide angiocardiology.

This study included 7 children with Ebstein's anomalies 3 cases, post-operation of ventricular septal defects 2 cases, Eisenmenger complex and congenital tricuspid stenosis, identified in 1970.

Age of the patient ranged from 6 months to 15 years and had systolic murmur that suspected tricuspid regurgitation at right lower sternal border.

^{99m}Tc pertechnetate was injected venously and presence and degree of tricuspid regurgitation were studied by visualization of right atrium,

right ventricle and inferior vena cava.

Inferior vena cava was apparently visualized in cases of Eisenmenger complex and congenital tricuspid stenosis, which, only the right atrium was visualized in the other remaining cases.

These results suggest that presumption; the malformed anterior leaflet of tricuspid valve visualize inferior vena cava as the regurgitated flow might be directed to Crista Terminalis which then causing a turbulent flow into inferior vena cava.

Based on this anatomic-hemodynamic idea, the authors could define tricuspid regurgitation identify the malformed tricuspid valve leaflet in each of the seven cases studied in this report.

Computalized Measurement of Renal Blood Flow in Infants and Children

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In pediatric nephrological practice it is desirable to obtain an accurate estimate of renal function for evaluation of prognosis. Such estimates of renal function are somewhat difficult to obtain in children, especially in new born infants and younger children, because of difficulty to obtain adequate blood and urine samples in standard clearance technique. For this reason the determination of the endogenous creatinine clearance is now widely used. But it is conceivable that the single injection clearance with external counting method using radionuclide is more applicable in younger children. This method reported by Blafox et al. uses only two blood samples (3-5 minutes and

50-60 minutes after injection), but the collection of urine is not necessary. Then we have tried to modify this procedure using 16 KW minicomputer to make easy the analysis of clearance curve of ¹³¹I orthoiodohippurate.

But the stimulus of blood sampling makes the child cry and move, especially in new born and younger infants, so that the clearance curve monitoring by the external counting method from the head is changed the line of decline, especially when sampled on 3 minutes after injection, and becomes unsuitable to measure the renal blood flow.

Therefore we changed the software of computer