

Correspondence

Br Heart J 1980; **44**: 231

Echocardiographic criteria for Ebstein's anomaly of tricuspid valve

Sir,

I read with interest the paper by Gussenhoven and her colleagues¹ on the echocardiographic criteria for Ebstein's anomaly of the tricuspid valve. I agree with their main conclusion that cross-sectional echocardiography is better than M-mode echocardiography for making this diagnosis. I am however puzzled by their finding of late tricuspid closure (later than mitral closure by 65 ms or more) in eight out of 20 patients with right ventricular volume overload for reasons other than Ebstein's anomaly, mainly with atrial septal defect. This does not agree with my experience. To verify this I looked at the preoperative echocardiographic records of the last 20 consecutive patients operated on at our institution for secundum atrial septal defects. In none of them did I find that tricuspid valve closure occurred later than 60 ms after mitral valve closure. The discrepancy between our findings presumably results from the different ages of the patients. The group of patients with right ventricular volume overload reported by Dr Gussenhoven and her colleagues¹ ranged in age from 21 to 66 (mean 38) whereas our patients were all less than 19 years of age (mean 8). In my opinion the demonstration of greatly delayed tricuspid valve closure (65 ms or more later than that of the mitral valve) in a child, gives rise to strong suspicion of the diagnosis of Ebstein's anomaly of the tricuspid valve. Cross-sectional echocardiography can however demonstrate the displaced septal tricuspid leaflet, the size of the atrialised portion of the right ventricle as well as the size of the functional right ventricle, which is extremely important in making the diagnosis and planning the surgical treatment of this disorder.

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Reference

- 1 Gussenhoven WJ, Spitaels SEC, Bom N, Becker AE. Echocardiographic criteria for Ebstein's anomaly of tricuspid valve. *Br Heart J* 1980; **43**: 31-7.

This letter was shown to Dr Gussenhoven and her colleagues who reply as follows:

Sir:

Like Dr Lundström we also were surprised by the finding that delayed tricuspid valve closure of more than 65 ms could occur for reasons other than Ebstein's anomaly. Whether this discrepancy could relate to a difference in age between his patients and ours, as suggested by Dr Lundström, is of interest and needs further evaluation.

Since the preparation of our paper we have examined another 10 patients with proven Ebstein's anomaly. Two of these showed a delay of less than 65 ms, being 0 and 20 ms, respectively. These findings further underline the fact that the valve anatomy of Ebstein's anomaly is variable and thus can account for a wide range in the gap between mitral and tricuspid closure.

Like Dr Lundström we still consider delayed tricuspid valve closure of more than 65 ms suspicious for Ebstein's anomaly, but we have shown its shortcomings as a diagnostic point. It is for this reason in particular that we advocate positive identification of the hallmark of the anomaly, that is distal displacement of the septal attachment of the tricuspid valve leaflet, for which cross-sectional echocardiography is most appropriate.

W J Gussenhoven,
S E C Spitaels,
N Bom,
A E Becker.