Interesting Electrocardiogram

LEFT BUNDLE BRANCH BLOCK (LBBB) IN COARCTATION OF THE AORTA

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A 22-year-old male had a surgical repair of coarctation of the aorta in 1971, when he was 9 years old, with good results. He is asymptomatic now. The electrocardiogram (3/19/85) submitted with his application (see attached) shows sinus rhythm with an unusual but definite form of LBBB. The wide QRS is best seen in leads I, II, III, AVL, AVF, and the notching of R waves is clear in leads I, AVL, and (late on the R) in V6 (see arrow). The duration of QRS is 0.12 seconds (see AVF, AVL, II).

The reason that a correct electrocardiogram diagnosis is important here is that LBBB is not seen in simple coarctation of the aorta and is never seen as a separate congenital IV conduction defect in contrast to RBBB. We know, however, that a high percentage of coarctation patients have an accompanying lesion of the aortic valve. LBBB can occur with aortic stenosis. Further records on this applicant revealed that now he has a basal systolic murmur and click, and the blood pressure in arms and legs was normal. His cardiologist's current report states he probably has a bicuspid aortic valve and mild aortic stenosis.

The significance of the LBBB is in some question. The original electrocardiogram in 1971 is not available so we do not know if the current electrocardiogram is unchanged from the pre-operative one. If this were so, the LBBB would be linked to a mild aortic stenosis. If LBBB appeared post-operatively, unlikely in repair of coarctation, it might be less important long-term. If it is a recent LBBB it is related to recent calcium deposits in the base of the stenotic aortic valve and is a higher risk.

In any case, this is not a simple case of coarctation successfully repaired. Rating for aortic stenosis and LBBB seems appropriate.

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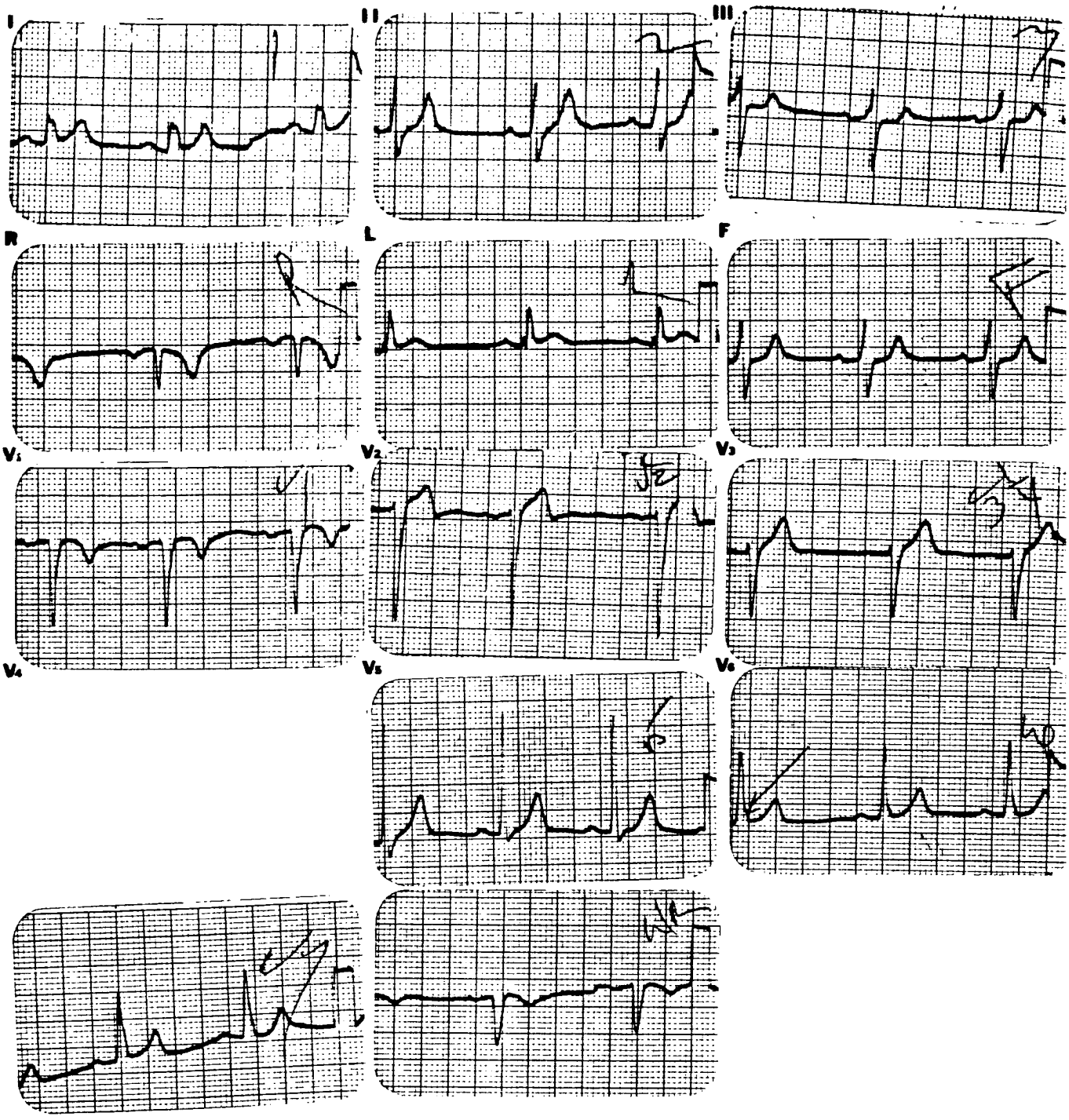
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