Atypical Bidirectional Tachycardia

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The given electrocardiogram (ECG) was taken on a Rheumatic Heart Disease patient on digitalis in the year 2000. He was critically ill and succumbed to this arrhythmia. The interesting feature of the arrhythmia is alternating Right bundle branch block (RBBB) and left bundle branch block (LBBB) (see Lead V1) at a rate of 161/mt. A detailed description of bidirectional tachycardia (BT) came from Rosenbaum and his associates (1969). They suggested that BT is a supraventricular arrhythmia with aberrant conduction through RBBB with alternating left anterior fascicular and left posterior fascicular block resulting in alternate beats having - 60° to 80° and + 120° frontal plane axis. Rosenbaum and his associates have stated that BT is nothing but a syndrome of paroxysmal trifascicular block occurring during some episodes of supraventricular tachycardia. Another mechanism postulated is the ventricular origin of the arrhythmia. In that case, the origin of arrhythmia may be close to the Left Bundle Branch bifurcation. Hence entry into anterior and posterior fascicles alternatively gives rise to an abnormal axis and patient has alternating RBBB with LAFB or LPFB.

The BT has a rate of 140-180 bpm and is mostly due to digitalis toxicity in a patient with severe heart failure. The arrhythmia has a grave prognosis. All the above criteria are satisfied in the reported ECG. However ECG is atypical considering the description of Rosenbaum and associates.

This ECG is unique in that we could not find any previous description of alternating RBBB and LBBB in a case of BT. The reported ECG does not have ‘P’ waves suggesting junctional tachycardia with alternate RBBB and LBBB aberrancy.

References
2. Olgin JE, Zipes DP. Specific arrhythmias: Diagnosis and Treatment. Braunwald’s Heart Disease 10e 2015: 788

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