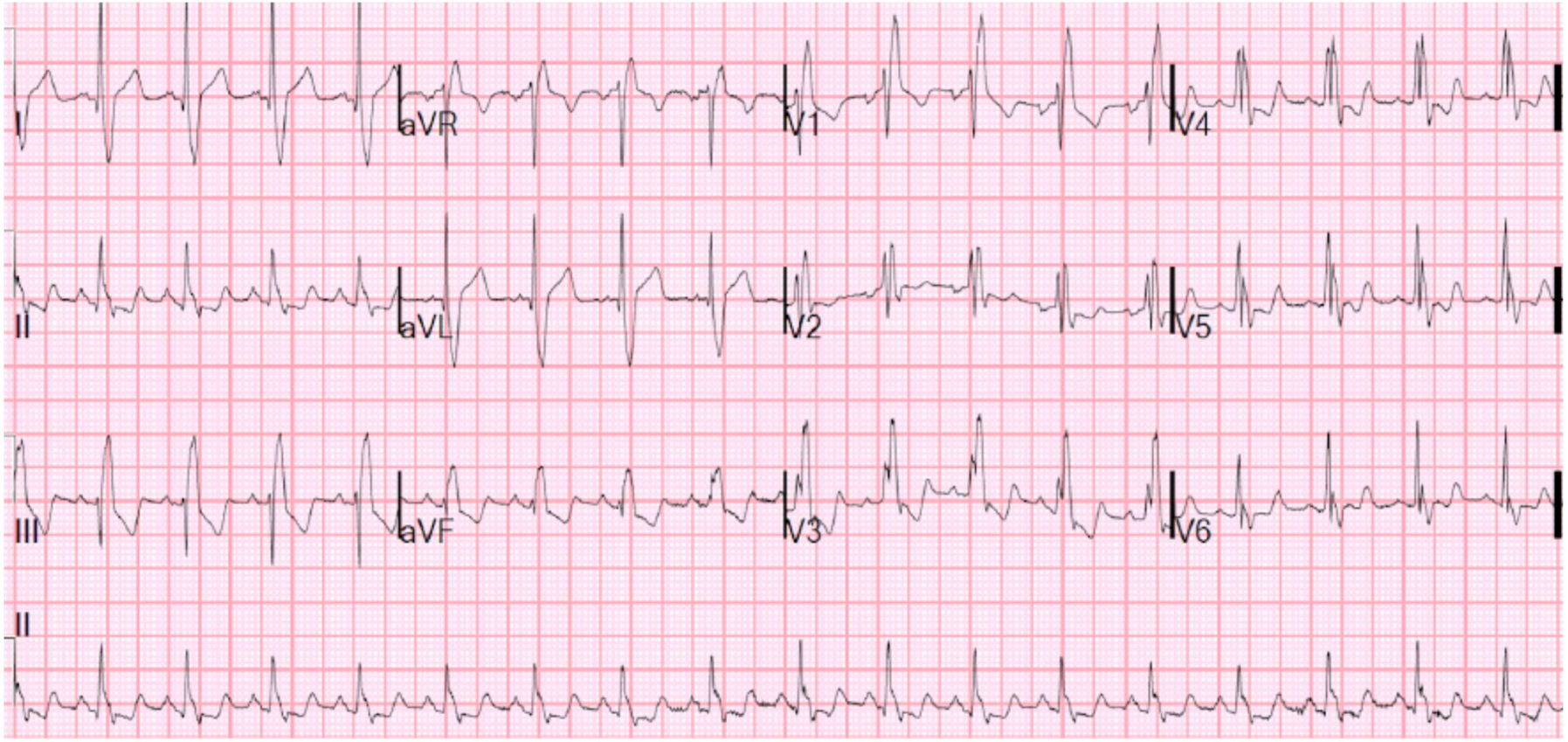
- Right bundle branch block, complete (RBBB)



- Prolonged QRS duration (≥ 120 msec)
- Secondary R wave (R’) in leads V1 and V2 (rsR’ or rSR’) with R’ usually taller than the initial R wave
- Secondary ST-T changes in leads V1 and V2 (T wave inversion; downsloping ST segment may or may not be present)
- Wide slurred S wave in leads I, V5, and V6

In RBBB, mean QRS axis is determined by the initial unblocked 60 to 80 msec of the QRS complex and should be normal unless LAFB or LPFB is present.

RBBB does *not* interfere with the ECG diagnosis of ventricular hypertrophy or Q wave MI (unlike LBBB).

RBBB may be permanent, transient, or intermittent.

The right bundle branch originates in the Bundle of His and travels down the interventricular septum to transmit electrical impulses via terminal Purkinje fibers to the papillary muscle of the tricuspid valve and the right ventricle. As a result: (1) tension within the papillary muscles/valve leaflets begins to increase before ventricular contraction; (2) ventricular contraction begins in the apex and travels toward the base: and (3) ventricular contraction occurs in the endocardium before the epicardium. All of this optimizes cardiac output and overall efficiency of the heart by squeezing, shortening and twisting of the ventricular myocardium during systole; thus in effect "wringing out" the ventricles with each beat.

Since the right bundle is longer, it is more likely to have a longer refractory period than the left bundle. During rapid supraventricular rhythms the right bundle may be refractory to impulse conduction while the left bundle conducts normally, resulting in a rate-related RBBB (RBBB aberrancy). Likewise, a critically-timed APC may conduct with a RBBB configuration.

RBBB can be seen in:

- Occasionally occurs in normal adults (incidence ~ 2/1000) without underlying structural heart disease (unlike LBBB, which essentially always occurs in the setting of heart disease). These individuals with RBBB have a prognosis almost as good as the general population. However, among individuals with coronary artery disease (CAD), RBBB is associated with a 2-fold increase in mortality (compared to those with CAD but without RBBB).
- Hypertensive heart disease
- Myocarditis

- Cardiomyopathy
- Rheumatic heart disease
- Cor pulmonale (acute or chronic)
- Degenerative disease of the conduction system (Lenègre's disease) or sclerosis of the cardiac skeleton (Lev's disease)
- Ebstein's anomaly