Bundle Branch Blocks on EKG Waveforms

Examples

One of the best ways to gain skills in recognizing abnormal EKG tracings is to practice interpreting them. This reading will provide you with several examples of bundle branch blocks to examine and interpret.

The above EKG represents a right bundle branch block (RBBB). First, note the wide QRS of approximately 0.16 seconds. Normal QRS duration is < 0.11 seconds. Next, look at the QRS complexes in the precordial leads. The QRS complex in V1 is labeled rSR'. The two R-waves are signifying that the ventricles are not depolarizing at the same time. These two R-waves resemble rabbit ears. The first R-wave shows the left ventricle depolarizing. This is followed by a second R-wave, which depicts depolarization of the right ventricle. Also, this EKG shows normal sinus rhythm.
The above EKG reveals a left bundle branch block (LBBB). It is pretty clear that the QRS is wide throughout, almost 0.2 seconds. LBBB is best seen in the lateral leads. Using the precordial leads, V6 is usually the best option. Leads I and aVL also provide useful lateral leads. The lateral leads reveal a wide, slightly notched QRS complex. In LBBB, the right ventricle depolarizes first, followed by the left. The resultant QRS complex will be wide and upright in the lateral leads and wide and downward in the anterior leads (V1), similar to normal activation—just with a wide QRS. The rhythm above is normal sinus rhythm.
This EKG also demonstrates LBBB. Note the wide QRS and notching of the QRS laterally (best seen in aVL in this tracing). At a quick glance the rhythm appears irregular. However, with closer inspection, we see normal sinus rhythm with premature atrial contractions. Beats 2, 6, 10, and 14 are the premature atrial contractions.

Look for the characteristics of RBBB or LBBB in this one. What is your diagnosis?