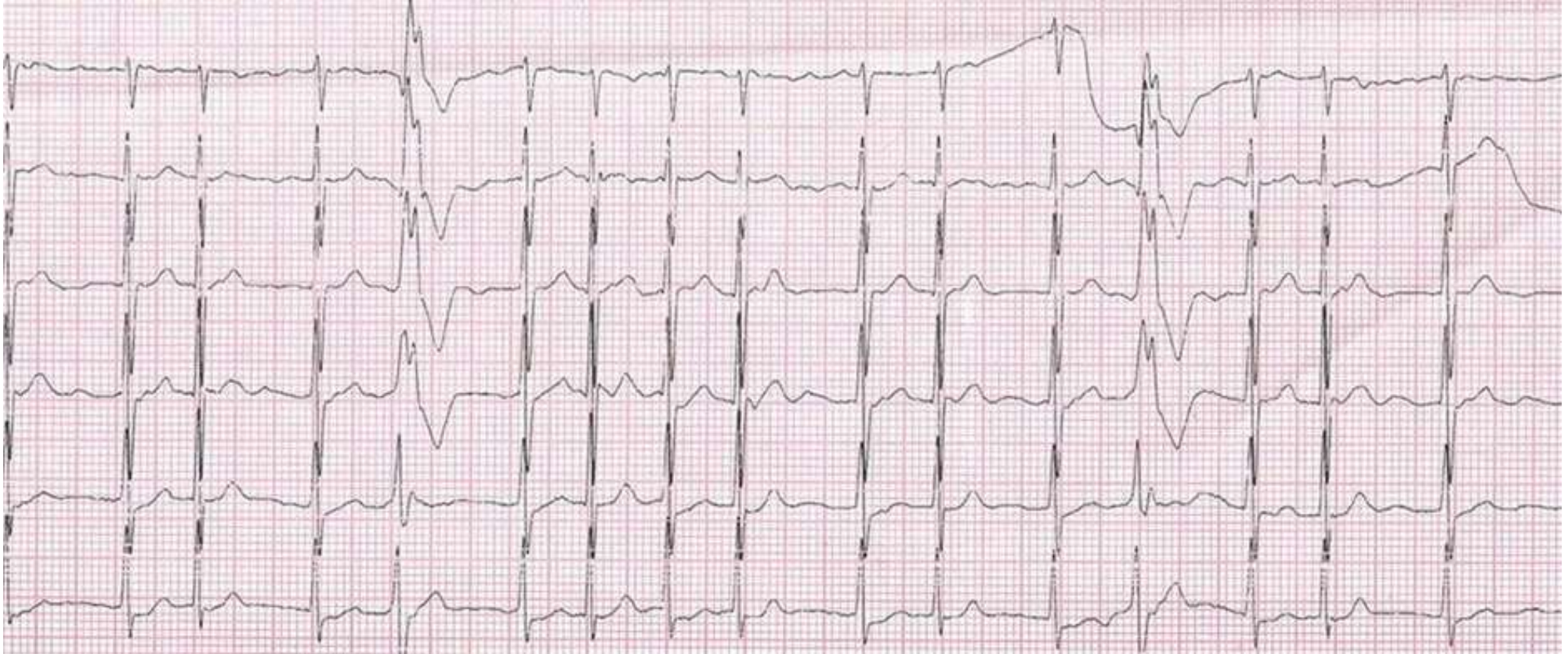


- **Aberrant conduction (including rate-related)**



AFIB with Ashman's phenomenon (aberrant beats are the 2 wide complexes)

- Wide (> 120 msec) QRS complex (or rhythm) due to abnormal conduction of a supraventricular arrhythmia (e.g., AFIB, atrial flutter, other SVTs) through the ventricular conduction system.

Aberrant intraventricular conduction is often confused with a ventricular ectopic beat (or rhythm).

To distinguish aberrancy from a fixed ventricular conduction defect, one or more normally conducted QRS complexes should be apparent on another section of the tracing or on a prior ECG.

Since the right bundle is longer, it is more likely to have a longer refractory period than the left bundle. As such, aberrant conduction occurs with a RBBB pattern in 80% of cases.

Aberrant conduction less commonly occurs with LBBB, LAFB, or LPFB morphology.

Aberrant conduction may be tachycardia-dependent (most commonly) or bradycardia-dependent.

In the setting of AFIB, *Ashman's phenomenon* refers to a long RR interval followed by a relatively short RR interval (long-short cycle) with the beat in the short cycle manifesting aberrant conduction (most commonly RBBB configuration).

Return to normal intraventricular conduction is sometimes accompanied by T wave abnormalities.

Rate-related BBB aberrancy is often converted to normal conduction following a VPC. The pause following the VPC allows enough time for the bundle branch to recover/repolarize and normal conduction to return, even if it is for only one complex.



Rhythm strip of V₁ showing a sinus tachycardia at 102 BPM with a PVC followed by a fully compensating pause which allows enough time for the left bundle branch to partially recover, resulting in one sinus beat (oval) showing narrow QRS rather than LBBB as in other sinus beats.

Atrial flutter with 1:1 conduction is often fast enough to result in aberrant conduction since the bundle branches do not have enough time to fully recover. It is important to inspect the entire ECG or longer recordings, if available, which may demonstrate periods of variable AV block, allowing for identification of flutter waves and periods of normalized QRS conduction.



Atrial flutter with intermittent 1:1 conduction, which causes intermittent aberrant conduction. When the flutter conduction rate slows, the QRS shortens.