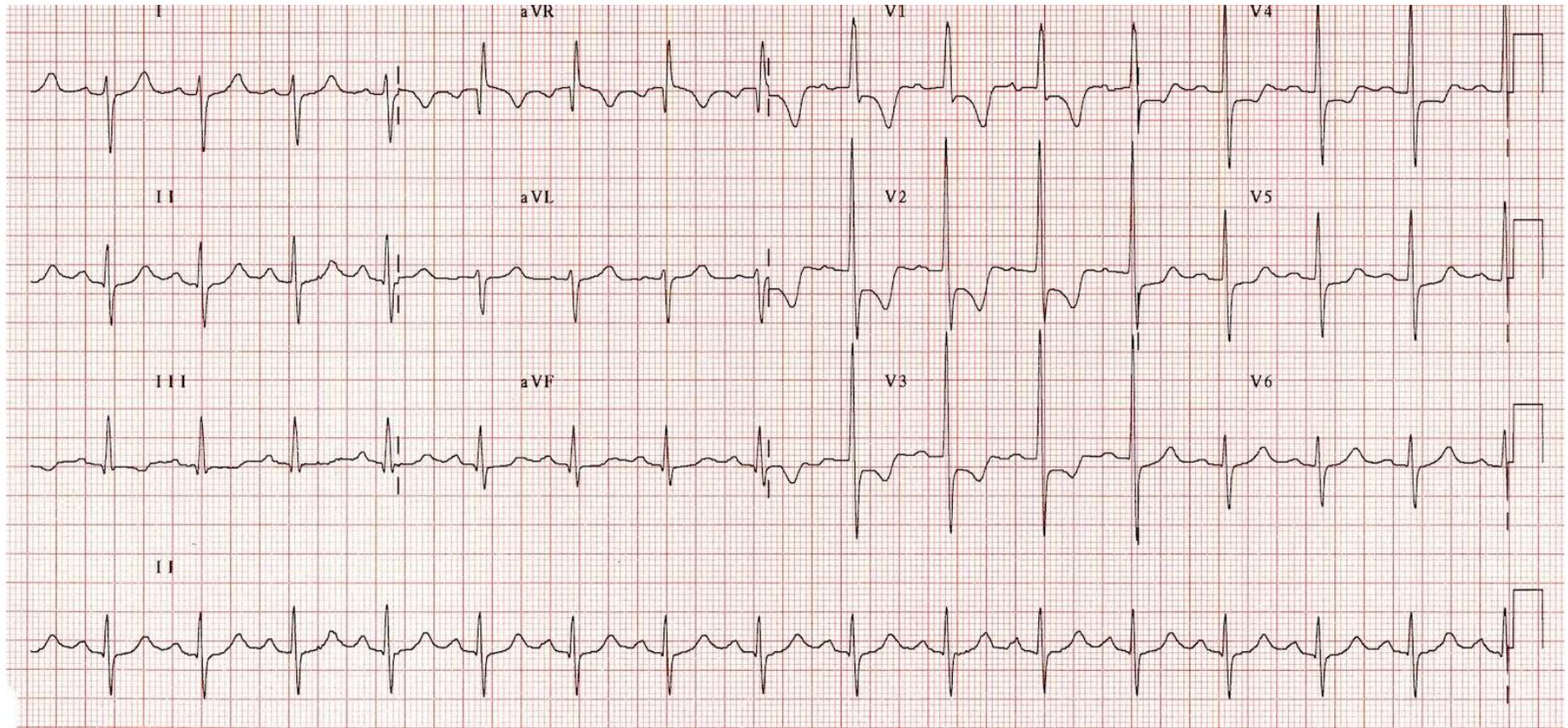


- **Right ventricular hypertrophy (RVH)**



Right ventricular hypertrophy with ST-T changes secondary to RVH

- Right axis deviation with mean QRS axis $\geq +100^\circ$

- Dominant R wave
 - R/S ratio in V1 > 1 , or R/S ratio in V5 or V6 ≤ 1
 - R wave in V1 ≥ 7 mm
 - R wave in V1 + S wave in V5 or V6 > 10.5 mm
 - rSR' in V1 with R' > 10 mm
 - qR complex in V1

- Secondary ST-T changes (downsloping ST depression, T wave inversion) in right precordial leads (if present, be sure to code ST and/or T wave changes of hypertrophy)

- Right atrial abnormality/enlargement is common

- Onset of intrinsicoid deflection (beginning of QRS to peak of R wave) in V1 < 0.05 seconds

Severe RVH can underestimate the ECG diagnosis of LVH by canceling prominent QRS forces from the thickened left ventricle, reducing the sensitivity of the voltage criteria for LVH.

In patients with RVH, ischemic-looking ST-T changes are considered secondary to hypertrophy when confined to the right precordial leads (V1–V3). In contrast, ischemic-looking ST-T changes involving other leads (V4–V6, II-III-aVF, I-aVL) should be coded as ischemia.

QR complexes with T wave inversion in the right precordial leads can mimic anteroseptal/anterior MI, though tall R waves in the right precordial leads, right axis deviation, and right atrial enlargement are often present and are clues to the presence of RVH.

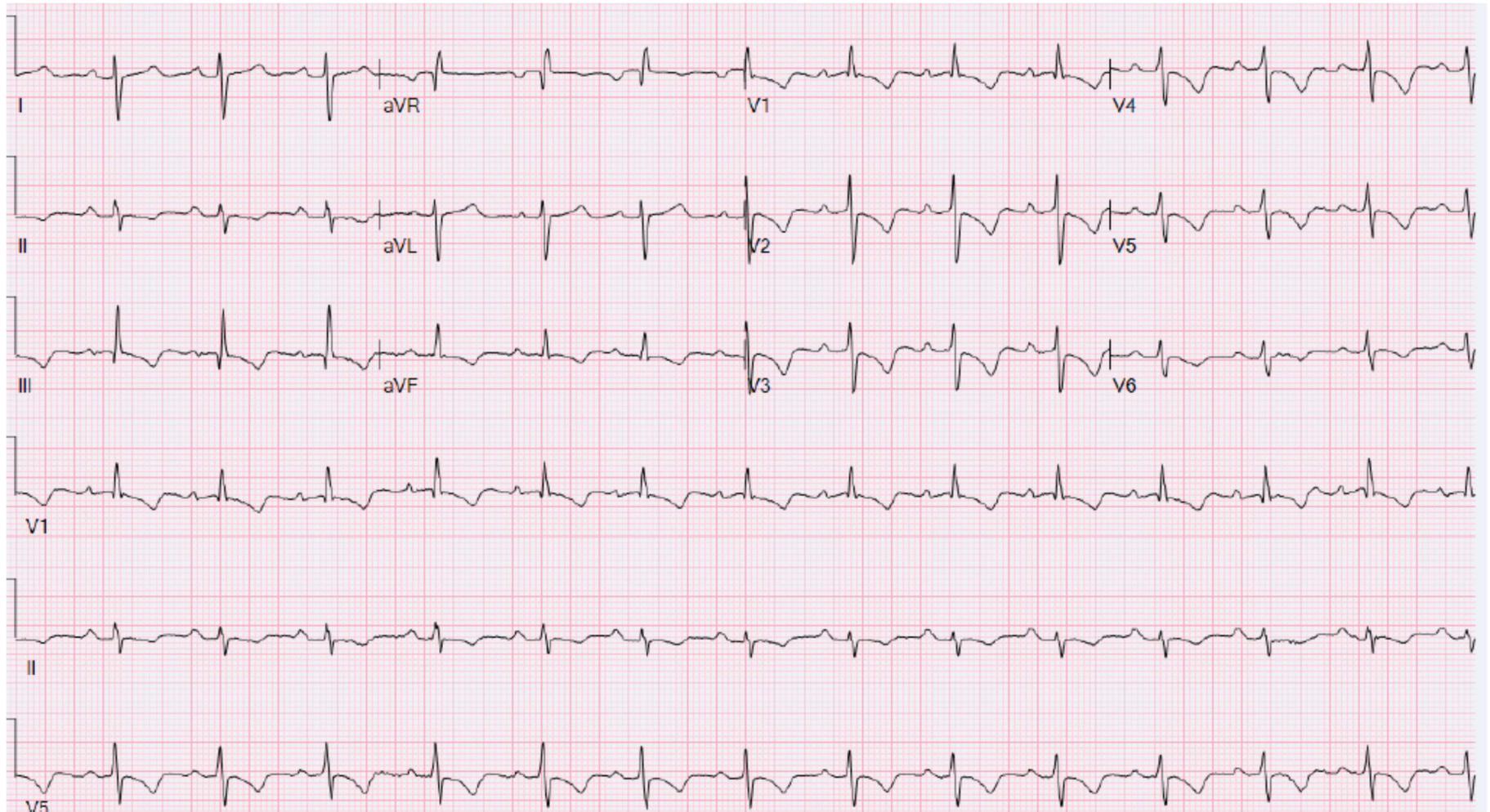
Conditions that can present with right axis deviation and/or a dominant R wave can mimic RVH and include:

- Posterior or inferoposterolateral wall MI. When a tall R wave is present in lead V1, other ECG findings can help distinguish RVH from posterior MI: T wave inversions in V1–V2 and right axis deviation favors the diagnosis of RVH, while inferior Q waves suggestive of inferior MI favors the diagnosis of posterior MI.
- RBBB

Despite the presence of right axis deviation and a tall R wave in lead V1 consistent with RVH, RVH should not be diagnosed in the setting of RBBB (which also manifests a tall R ' in lead V1).

Other conditions that can mimic RVH:

- WPW syndrome (type A, left free-wall accessory pathway)
- Dextrocardia
- LPFB
- Normal variant (especially in children)



Another example of RVH with ST-T changes secondary to hypertrophy.