Variant angina

Delehanty, J. “Variant angina.” *UpToDate v11.2.*

Key Points:

- Gold standard for subsequent tests has become angiography
- Provocative tests can help make the diagnosis, but at some risk
- Rx CCB / nitrates

Definition
- Spontaneous angina with ST elevation
- First described in 1930s (not by Prinzmetal first)
- Transient, abrupt reduction in luminal diameter without preceding increased demand
- Normal or diseased vessel, usually within 1cm of plaque
- Reversed by nitroglycerin or calcium channel blocker

Clinical characteristics
- Younger, less likely to have CRF
- Associated with migraine, Raynaud’s, cocaine, cigarettes, EtOH withdrawal, thyroid disease
- Can be precipitated by exercise, hyperventilation -> most with normal BET
- Circadian: midnight to early morning
- Arrhythmias: VT, block
- MI: usually with underlying diseased vessel

Pathogenesis
- Autonomic nervous system:
  - Precipitated by acetylcholine / methacholine,
  - Prevented by atropine and alpha blockers
- Endothelial dysfunction: increased endothelin release and activity, relation to low estradiol levels
  - May lead to vessel damage, stasis, thrombosis

Diagnosis
- ECG: ST elevation with chest discomfort -> baseline with resolution
  - 61% have normal ECGs on ED arrival
- Exercise stress +/- nuclear: limited sensitivity
- Dobutamine echo: may provoke vasospasm, limited sensitivity
- Angiography (Class Iia indication): usually RCA
  - Multivessel: migratory, sequential at 2 different sites, or simultaneous
- Ergonovine:
  - Higher sensitivity, lower specificity than acetylcholine
  - 50 -> 400 micrograms until max dose or positive result (normal arteries will respond diffusely with >400)
  - 4 of >1000 refractory spasm or ventricular fibrillation (only used in those with nl vessels)
  - Stress echo: compares well with angiography as gold standard (93% sens / 91% spec)
- Hyperventilation with ECG changes (6 minutes): 62% sensitive, 100% specific

Treatment
- Risk factor modification
- Calcium channel blockers
- Nitrates
- Avoid nonselective beta blockers
- ASA ? -> inhibits prostacyclin
- Percutaneous revasculrization: not indicated, unless underlying disease?

Prognosis
- 95% survival at 5 years, worse for arrhythmic complication
- Uncertain effect of meds on prognosis