

Takotsubo Cardiomyopathy Complicated by Ventricular Tachycardia Status-Post Electroconvulsive Therapy

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BACKGROUND

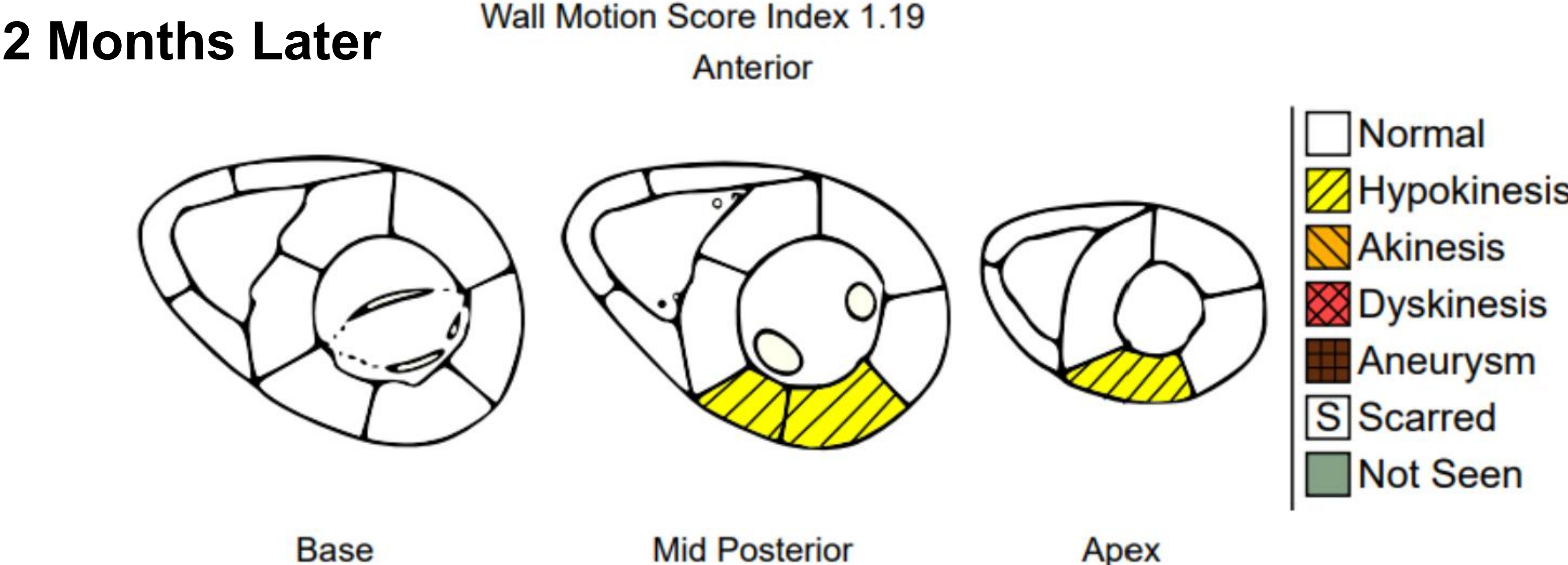
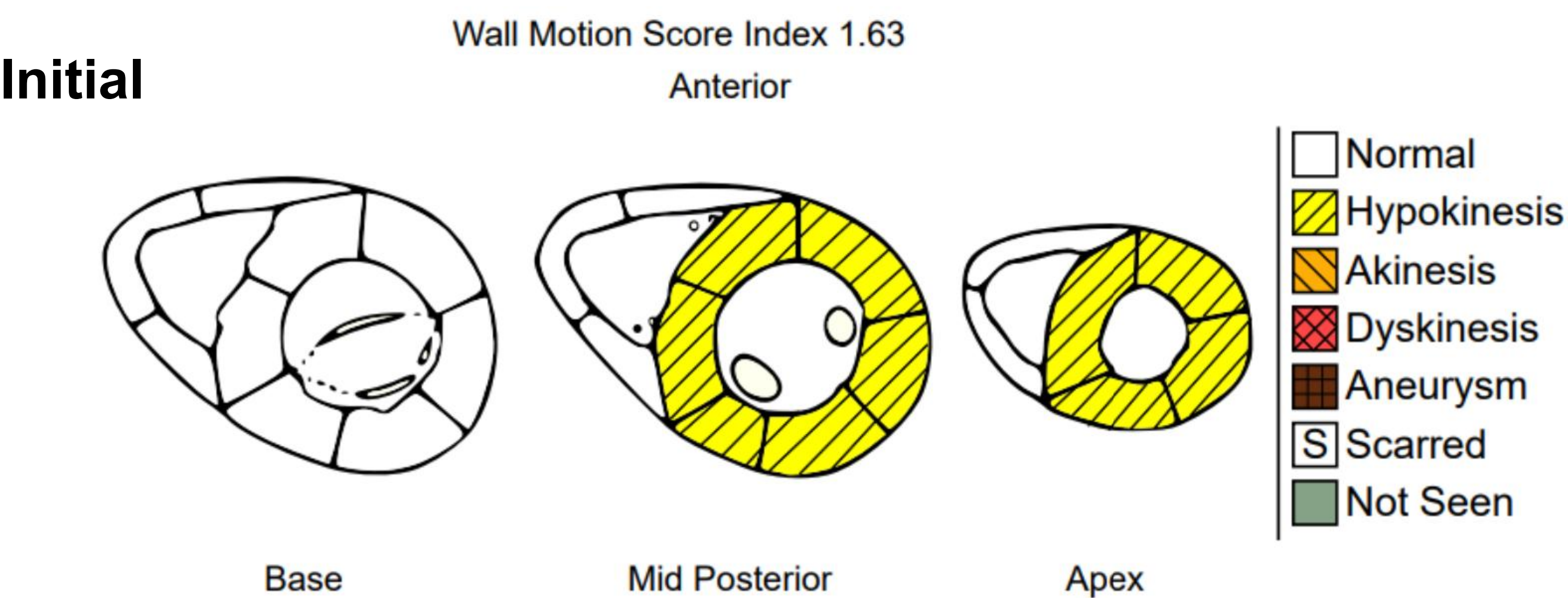
- ❖ Patients requiring electroconvulsive therapy (ECT) oftentimes have upregulated HPA axis secondary to psychiatric illness
- ❖ Elevated cortisol → permissive effect on catecholamines → predisposition to arrhythmias
- ❖ Takotsubo Cardiomyopathy (TTC) can cause QT prolongation

CASE

- ❖ 67-year-old female underwent right unilateral ECT for major depressive disorder
- ❖ 2nd consecutive day of ECT induction medications: etomidate 8 mg and succinylcholine 30 mg
- ❖ Required esmolol 80mg and metoprolol 4mg for sympathetic surge
- ❖ During PACU recovery, stable monomorphic VT
- ❖ Received 4 mg metoprolol and 100 mg lidocaine → VT terminated
- ❖ Two more episodes of non-sustained VT → transported to ED for further evaluation

LABS & IMAGING

- ❖ Labs: normal electrolytes, mildly elevated and unchanging troponin, BNP 6000 pg/mL (ref<640 pg/mL)
- ❖ EKG: TWIs laterally and QTc 515ms
- ❖ CT Angiogram: unremarkable
- ❖ TTE: reduced EF from 64% → 35% and findings suggestive of Takotsubo Cardiomyopathy – mid and apical hypokinesis with preserved basal contractility



DISCUSSION

- ❖ Possibilities:
 1. Acute psychiatric illness → TTC → ECT → VT
 2. Consecutive days of ECT and sympathetic surges in the setting of elevated cortisol → TTC → VT
 3. ECT → Coincidental VT → TTC
- ❖ ECT could be cautiously reinitiated based on clinical judgement after full recovery
- ❖ Prophylactic beta-blockers should be strongly considered

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