Duloxetine And New-onset Premature Ventricular Contractions Requiring Catheter Ablation: A Case Report

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ASRA PAIN MEDICINE
25th Annual Pain Medicine Meeting
November 5-7, 2026 | Tampa, Florida
#ASRAFALL26

Why this case matters

- Duloxetine is a first-line SNRI for chronic musculoskeletal pain, often started at 20–30 mg.
- Population data are reassuring: 42 trials (n = 8,504) showed no meaningful ECG effects; FAERS shows no arrhythmia signal.
- But norepinephrine reuptake inhibition raises cardiac sympathetic tone, a known trigger of ectopy in scarred myocardium.
- **To our knowledge, ventricular ectopy has not previously been attributed to duloxetine.**

The patient

48-year-old woman

referred for chronic bilateral knee pain (degenerative joint disease)

- **Coronary artery disease** with prior distal LAD infarct
- **Stage F3 hepatic fibrosis** (managed as early cirrhosis)
- **Morbid obesity:** 141 kg, BMI 53.2 kg/m²
- **Obstructive sleep apnea** on CPAP
- **Active smoker;** moderate persistent asthma
- **Home meds:** aspirin 81 mg, furosemide 20 mg, gabapentin 300 mg qHS, inhaled asthma therapy

No prior palpitations, syncope, or documented arrhythmia.

Clinical course

Duloxetine	Palpitations	Workup	Diltiazem ER	Ablation	Follow-up
20 mg daily started in pain clinic	with dizziness; frequent PVCs on ECG and ambulatory monitor	scar on PET; EF preserved; labs unremarkable	120 mg daily; symptoms persisted	catheter ablation of PVCs, Mar 4, 2026	Apr 10, 2026: palpitations substantially reduced

Proposed mechanism

Duloxetine 20 mg — blocks norepinephrine reuptake

Hepatic impairment — clearance ≈15%, AUC 5×, half-life 3× (Child-Pugh B)

→ **↑ Cardiac sympathetic tone** — exposure may approach that of a much larger dose

→ **Myocardial scar** — apical septal (prior distal LAD infarct): triggered activity and reentry at border zone

→ **Symptomatic PVCs** — refractory to diltiazem → ablation

Hypothesis-generating. Hepatic pharmacokinetics from single-dose data in Child-Pugh B cirrhosis (Cymbalta prescribing information).

Workup

- **PET perfusion:** small apical septal defect at rest and stress, consistent with prior distal LAD infarct
- **Echo:** LVEF 65–70%, no valvular disease
- **Rhythm:** frequent PVCs on 12-lead ECG and ambulatory monitoring
- **Labs:** TSH 1.1 mIU/L, creatinine 0.8 mg/dL, HbA1c 4.7%

Causality: Naranjo

+2
POSSIBLE

- **+2** onset after drug started
- **+1** confirmed on ECG/monitor
- **−1** alternative causes exist

Doubtful ≤0 | **Possible 1–4** | Probable 5–8 | Definite ≥9

Competing explanations: scar, OSA, obesity, smoking, loop diuretic. No dechallenge or rechallenge was performed.

Conclusion

Duloxetine may unmask ventricular ectopy in scarred myocardium, especially when liver disease raises drug exposure.

- Myocardial scar + liver disease: get a baseline ECG and ask about palpitations at follow-up.
- Labeling advises against duloxetine in chronic liver disease: reconsider the drug, not just the dose.
- New ectopy on an SNRI: document a dechallenge before escalating to invasive management.