



When Pain Takes The Pulse

A Case Of Bezold-Jarisch Reflex In The Post-Anesthesia Care Unit (PACU)

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INTRODUCTION

- Uncontrolled pain can cause marked distress to patients following outpatient orthopedic procedures, as well as complicate their recovery.
- This report presents the case of an otherwise healthy male patient who developed acute hypotension and bradycardia while in the PACU.

CASE REPORT

- **34-year-old healthy male** patient, presenting for a knee meniscectomy.
- Received PO Tylenol, Celebrex, and Oxycodone for pre-operative pain of 7/10.
- **General anesthesia** pursued.
- The patient was extubated in the OR. PACU Course was uneventful until...
- Right before discharge, he developed an episode of **acute loss of consciousness**. Pulses were thready, and the PACU team called a **code blue**.
 - Vitals: HR of **45**, BP of **90/50**, RR of 17, O2Sat of 97% while on 10L CFM
- An IV was started and **1L of fluids** was given with improvement, no seizure like activity noted, and telemetry monitoring revealed normal sinus rhythm throughout.
- He was monitored in the PACU where he had a recurrence of symptoms when getting up a second time accompanied by increasing pain levels.
- Upon further inquiry, the patient and family reported past episode of vasovagal syncope triggered by a vasectomy procedure a year ago.
 - At the time cardiac workup including **Holter monitoring** was negative. Laboratory markers were unremarkable including normal electrolytes and lactate levels.

DISCUSSION

- This patient presenting with syncope in the post-anesthesia care unit (PACU) exemplifies a classic case of vasovagal syncope, potentially triggered by the **Bezold-Jarisch reflex** from acute pain.
- This phenomenon is characterized by a **triad of bradycardia, hypotension, and vasodilation**. The reflex is particularly relevant in this case, where dehydration and pain experienced post-procedure may have triggered an exaggerated vagal response, resulting in syncope.
- The Bezold-Jarisch reflex involves excessive venous pooling, detected by **baroreceptors**, which leads to **parasympathetic activation** and reduced sympathetic output, ultimately causing hypotension and bradycardia.

REFERENCES

1. Mark AL. The Bezold-Jarisch reflex revisited: clinical implications of inhibitory reflexes originating in the heart. J Am Coll Cardiol. 1983 Jan;1(1):90-102. doi: 10.1016/s0735-1097(83)80014-x. PMID: 6826948