

# Can His Heart Handle a Hip Operation?



**F**or the past three years, a now 62-year-old man has had pain in his left hip. His orthopedic surgeon recommends replacement, so he presents for preoperative assessment.

He has no history of cardiac disease but does have osteoarthritis, obesity, type 2 diabetes, hypertension, and hyperlipidemia. His surgical history is remarkable for a cholecystectomy performed when he was 48.

His medication list includes lisinopril, metoprolol, metformin, glyburide, naproxen, and atorvastatin. He is allergic to sulfa, which has caused anaphylaxis in the past.

The patient works as the warehouse supervisor of a local home improvement store. He is married with three adult children. His brother and uncle both succumbed to sudden cardiac death in their mid-40s. His mother died of a stroke, and his father of a myocardial infarction.

He reports joint pain consistent with osteoarthritis, occasional constipation, and urinary hesitancy. He is hard of hearing,

wears corrective lenses, and walks with a limp.

Vital signs include a blood pressure of 148/88 mm Hg; pulse, 83 beats/min; respiratory rate, 12 breaths/min<sup>-1</sup>; and temperature, 99°F. His weight is 254 lb and his height, 69 in.

Physical exam reveals an obese man in no acute distress. Weber exam lateralizes to the left side. Dentition is in good repair, and his Mallampati score is II. The thyroid is normal, and there is no jugular venous distention. The lungs are clear bilaterally. The cardiac exam reveals a normal rhythm with a grade II/VI early systolic murmur best heard at the left upper sternal border. There are no extra heart sounds or rubs.

The abdomen is obese, with a well-healed surgical scar in the right upper quadrant. There are no masses. Peripheral pulses are strong bilaterally. There is no peripheral edema, and there are no lesions on either foot. Range of motion in the left hip is significantly limited due to pain.



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An ECG reveals a ventricular rate of 83 beats/min; PR interval, 110 ms; QRS duration, 102 ms; QT/QTc interval, 426/500 ms; P axis, 4°; R axis, 5°; T axis, -21°. What is your interpretation?

### ANSWER

The ECG shows evidence of sinus rhythm, left ventricular hypertrophy, and a prolonged QT interval. Although it may be tempting to label the RR' in lead V<sub>1</sub> as right bundle branch block, recall that bundle branch block occurs with a QRS duration

> 120 ms, which is not present here.

Left ventricular hypertrophy is demonstrated by high voltages in the precordial leads (S in lead V<sub>1</sub> and R in lead V<sub>5</sub> or V<sub>6</sub> ≥ 35 mm); compare this with the ECG in the May issue of *Clinician Reviews* (2017;27(5):9, 13). A prolonged QT interval is suggested by a QTc interval of 500 ms.

The patient's family history of sudden cardiac death makes these findings particularly concerning; genetic workup should be considered for both the patient and his children. **CR**

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