Unusual papillary muscle hypertrophy in a septuagenarian

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A 73-year-old nonhypertensive man was admitted to the GB Pant Hospital for chest pain and dyspnea on exertion. Trans-thoracic echocardiography revealed severe mitral regurgitation with mild aortic stenosis (mean gradient, 24 mm Hg) and concentric left ventricular hypertrophy (LVH). The ejection fraction was 0.67. Mitral valve replacement with intraoperative transesophageal echocardiography was planned. During surgery, gross hypertrophy of the anterolateral papillary muscle (Figure 1) was found, which prompted a review of the patient's charts. Apart from increased voltages consistent with LVH, electrocardiogram revealed a peculiar pattern in leads V3 and V4: prominent, positive U waves that were missed on initial evaluation (Figure 2).

Hypertrophic cardiomyopathy (HCM) is a highly heterogeneous disorder with mutations in genes coding for proteins of the cardiac sarcomere, manifesting as LVH without obvious cause.¹ Papillary muscle hypertrophy and positive U waves are rare but documented features of HCM.² In view of the patient's age, nonobstructive nature of his disease, and absence of atrial fibrillation, no further surgical intervention was planned. Because calcium antagonists are the preferred therapy for nonobstructive HCM with normal systolic function,¹ the patient was prescribed oral diltiazem postoperatively. He was discharged uneventfully and continues to do well on follow-up.

FIGURE 1. Intraoperative photograph showing gross hypertrophy of papillary muscle (arrow).

References

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FIGURE 2. Electrocardiogram showing positive U waves (*arrows*).