



EXTREME CHOLESTEROL INTAKE AND ANABOLIC STEROID USE CAUSING ST ELEVATION MYOCARDIAL INFARCTION (STEMI) IN A 39-YEAR-OLD MALE

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Introduction

Anabolic steroid use is a rare cause of ST-elevation myocardial infarction (STEMI) in young to middle aged adults. There are several case reports in the literature that have described this occurrence.^{1,2}

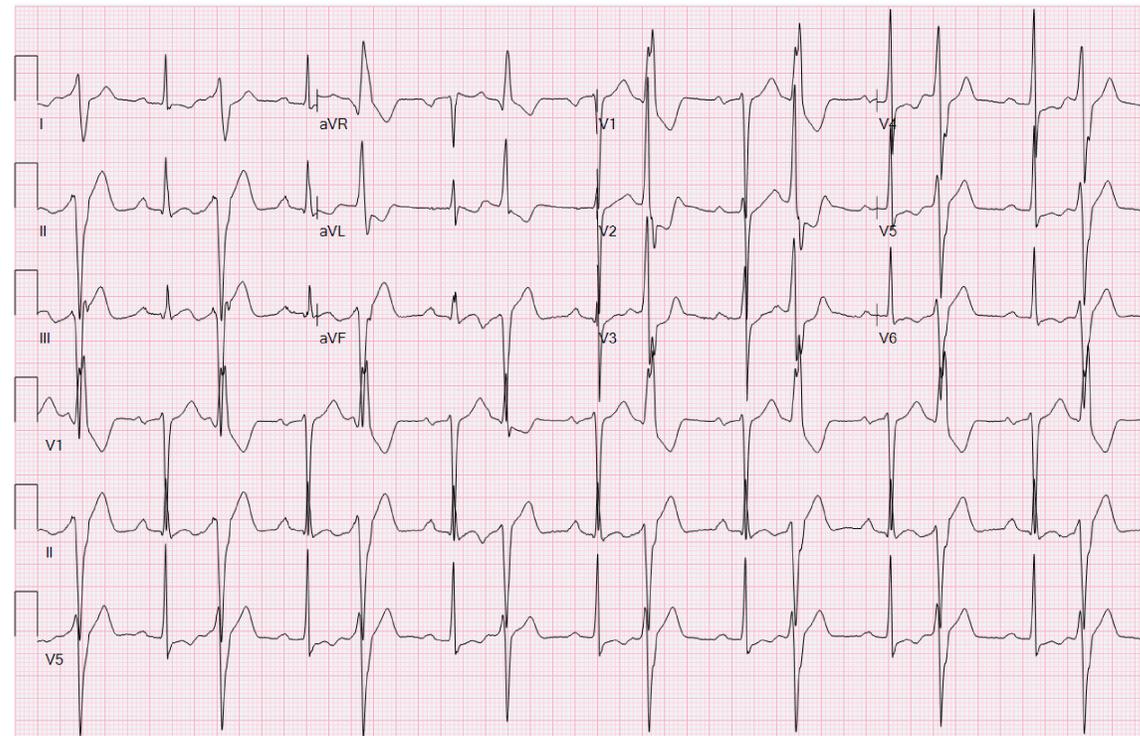
Case Report

A 39-year-old male with history of anabolic steroid use and erectile dysfunction presented to our institution with chief complaint of sudden onset, pressure-like chest pain after having sexual intercourse with his wife. An electrocardiogram revealed ST segment elevation in leads II, III, and aVF with reciprocal ST depression in leads V2 and aVL, consistent with inferior STEMI (Figure 1A).

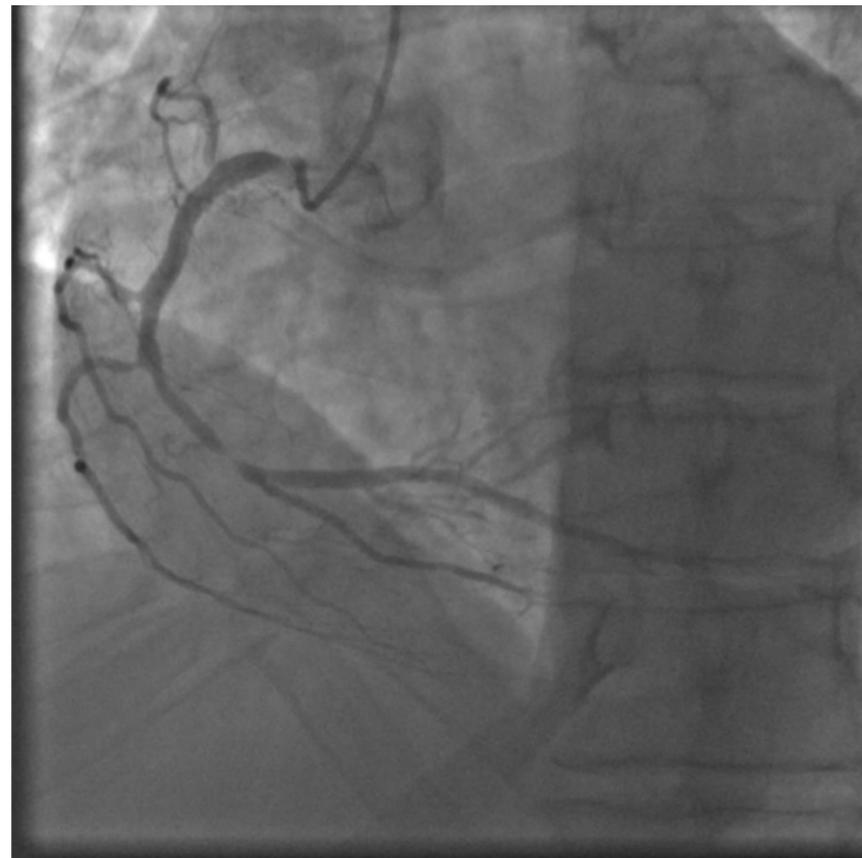
The patient was taken for emergent coronary angiography, which revealed a 99% distal right coronary artery stenosis and thrombosis (Figure 1B), with moderate to severe coronary artery disease present elsewhere. This lesion was successfully treated with aspiration thrombectomy, intravascular ultrasound, and drug-eluting stent placement and the patient convalesced well.

During hospitalization, his LDL was found to be 314 mg/dL. Upon discussion with the patient, it was discovered that his LDL was 78 mg/dL one month prior to this as part of a health insurance evaluation. The patient revealed he had been eating 30 eggs per day over the course of the prior month in addition to his anabolic steroid use, while avoiding cholesterol intake prior to his previous outpatient value.

A



B



Discussion

Anabolic steroid use is a rare but important cause of ST-elevation myocardial infarction among body builders. Anabolic steroids have been known to increase LDL levels alone by approximately 50%.³ The effect of cycling extreme dietary cholesterol intake is an important consideration in the pathophysiology of atherosclerosis in the young to middle aged body builder.

Conclusion

Anabolic steroid use combined with dietary habits can accelerate atherosclerosis and is an important, though rarely encountered, cause of ST-elevation myocardial infarction in young to middle-aged adults.

References

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2. Samreen F, Ubaidullah P, Zulfiqar A. Anabolic steroid-induced myocardial infarction in a young male. *Cureus*. 2021 Feb 1;13(2):e13054.
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Figure 1. (A). 12 lead electrocardiogram demonstrating inferior STEMI (B). Coronary angiography demonstrating 99% mid right coronary artery stenosis and thrombosis