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Treadmill Exercise Test in Wolff-Parkinson-White Syndrome

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A 52-year-old woman with Wolff-Parkinson-White (WPW) syndrome and paroxysmal supraventricular tachycardia (PSVT) underwent a treadmill exercise test. At 7 minutes during exercise, ST-segment depression reached a maximum of 3 mm in leads V₅ through V₆ (Figure: arrows). At 8 minutes during exercise, the delta wave and ST-segment depression disappeared simultaneously. At 5 minutes during recovery, the delta wave and ST-segment depression (Figure: arrows) reappeared simultaneously. Coronary

angiography which was performed with catheter ablation for PSVT showed no coronary artery disease.

In this case of WPW syndrome, ST-segment depression during exercise was a false-positive result for myocardial ischemia associated with ventricular preexcitation.¹

Reference

1. Archer S, Gornick C, Grund F, et al. Exercise thallium testing in ventricular preexcitation. *Am J Cardiol.* 1987;59:1103–1106.

Figure 1. Time course of electrocardiogram during treadmill exercise test. At 8 min during exercise, the delta wave and ST-segment depression disappeared simultaneously. At 5 min during recovery, the delta wave and ST-segment depression (arrows) reappeared simultaneously. These findings suggested that ST-segment depression was a false-positive result for myocardial ischemia associated with ventricular preexcitation.