



Jealousy of Sisters: Identical Clinical Features, Coronary Anatomy and Pathology

Kardeş Kıskançlığı: Benzer Klinik Özellikler, Koroner Anatomi ve Patoloji

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Approximately 70% of the general population has right-dominant coronary anatomy, 10% has co-dominant and 20% has left-dominant circulation⁽¹⁾. According to studies, in patients with acute coronary syndrome (ACS), left coronary dominance (LD) is a significant predictor of increased long-term mortality⁽²⁾. Substantial studies have shown that left side and codominance are associated with poorer outcomes than right dominance after percutaneous coronary intervention in patients with acute coronary syndrome⁽³⁾. An explanation for these results can be the fact that left or codominant coronary arterial circulation may represent less well-balanced myocardial perfusion⁽³⁾. A remarkable study by Omerbasic et al. determined high, post-surgical revascularisation mortality for left-dominant patients, especially in combination with left main (LMCA) stenosis and incomplete revascularisation⁽¹⁾. Although female gender is significantly more frequent in patients with LD, genetic algorithm remains unclear for inheritance of coronary variations.

We present two sister patients with identical LD coronary variation and similar coronary lesions who underwent urgent coronary artery bypass surgery (CABG).

Sister 1: Sixty-seven years old; hyperlipidemic, hypertensive, nondiabetic patient. Ejection fraction was 65% coronary angiography: Proximal LMCA stenosis (80%), left anterior descending artery (LAD) stenosis (80%) and circumflex (Cx) stenosis (90%). Right coronary system was diminutive (Figure 1). While she was waiting for cardiac surgery, she underwent urgent CABG due to persistent angina pectoris caused by ACS.

Sister 2: Fifty-nine years old; hyperlipidemic, hypertensive, nondiabetic patient. Ejection fraction was 65% Coronary angiography: LMCA stenosis (80%), LAD stenosis 80% and Cx stenosis 90%. Right coronary system was diminutive (Figure 2). While she was waiting to be a patient accompanist for her sister, she suffered ST elevation myocardial infarction 24 hours after her sister's operation. She underwent urgent CABG followed by coronary angiography.

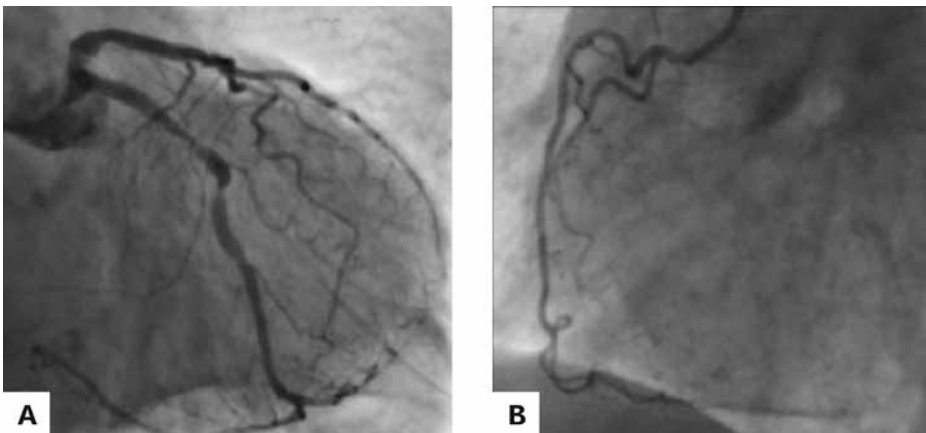


Figure 1. (A) Right anterior oblique with caudal angulation view. LMCA stenosis 80%, LAD stenosis 80% and Cx stenosis 90%. (B) Left anterior oblique view of the non-dominant right system.

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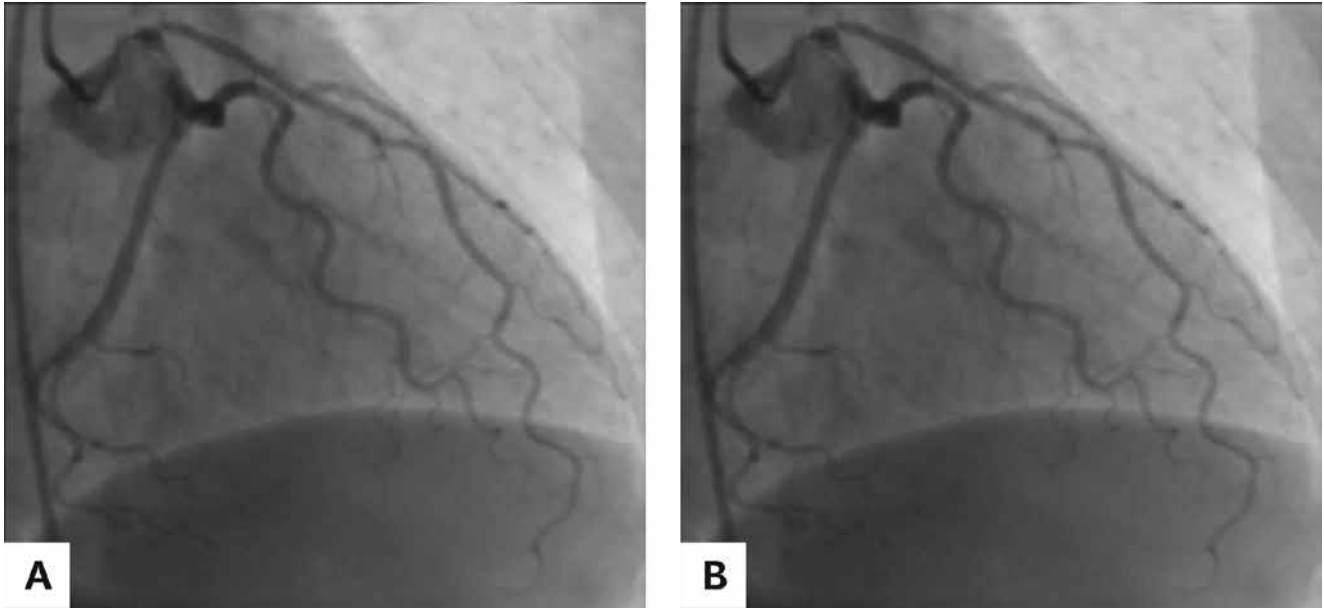


Figure 2. (A) Anterior oblique view with cranial angulation of left system. LMCA stenosis 80%, LAD stenosis 80% and Cx stenosis 90%. (B) Right anterior oblique view of the non-dominant right system.

Both sisters underwent total revascularisation on CPB for LAD with left internal thoracic artery and Cx with great saphenous vein. They were discharged one week postoperatively. The aim of these cases is to draw attention to the potential genetic transition of coronary dominance and the effects of prognostic values beyond standard risk scores of CABG. We need more knowledge on both issues for better clinical decision making.

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