

Coronary Arterial Bypass Grafting in a Patient with Dextrocardia and Situs Inversus Totalis: Case Report

Dekstrocardi ve Situs İnvorsus Totalisi Olan Bir Hastada Koroner Arter Bypass Greftleme

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ABSTRACT Coronary artery bypass grafting in a patient with dextrocardia and situs inversus totalis is presented. Literature review showed that this is the second case that is being reported from Turkey. Significant stenosis in the proximal segment and the first diagonal branch of the left anterior descending (LAD) coronary artery was present. The surgery was performed by using cardiopulmonary bypass and right internal thoracic artery (RITA) was used for the LAD anastomosis where a saphenous vein graft was used for the diagonal branch. Proximal anastomosis was done on the aorta. Literature review showed that dextrocardia and situs inversus does not necessitate techniques out of the routine applications for this kind of operation.

Key Words: Dextrocardia, situs inversus, coronary artery bypass

ÖZET Bu yazıda, dekstrocardi ve situs inversus totalisi olan bir hastada, koroner bypass cerrahisi tecrübemizi sunmayı amaçladık. Literatürde, Türkiye'den rapor edilmiş olan iki olgu vardır. Hastada, sol ön inen (LAD) koroner arter ve birinci diagonal dalında kritik lezyonlar vardı. Kardiyopulmoner bypass kullanılarak sağ internal torasik arter (RITA) LAD'a, safen ven grefti, birinci diagonal dalına anastomoz edildi. Safen greftin proksimal anastomozu aortaya yapıldı. Kaynaklar, bu hastalarda uygulanacak olan cerrahi veya perkütan koroner girişimlerin farklı teknikler gerektirmediğini göstermektedir.

Anahtar Kelimeler: Dekstrocardi, situs inversus, koroner arter bypass

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Dextrocardia associated with situs inversus totalis is a rare condition with an incidence of 1:10,000 in the general population. It is characterized by the abnormal position of the heart (with the apex positioned on the right side) and viscera.¹ The association of situs inversus totalis and coronary atherosclerotic disease is similar with the general population.² In this report we are presenting a case with dextrocardia and situs inversus totalis plus right arcus aorta who underwent a coronary artery bypass grafting (CABG) surgery in our department by using the standard surgical techniques.

CASE REPORT

A fifty-two-year-old male patient presented with stable angina pectoris and type II diabetes mellitus. The posteroanterior chest radiography showed

dextrocardia and stomach gas to be present at the right side (Figure 1). Echocardiography confirmed dextrocardia with the pulmonary artery being positioned at the right side of the aorta while the aortic arch itself was right sided as well. The ejection fraction was 50%. Evaluation of his coronary angiogram displayed significant stenoses to be present at the LAD and the first diagonal arteries (Figure 2). Situs inversus totalis was also confirmed with abdominal ultrasonography.

The patient was informed about the anomaly and a written consent was obtained from the pati-



FIGURE 3: Malposition of the heart.



FIGURE 1: PA chest radiography showed dextrocardia and stomach gas was presented at the right side.



FIGURE 4: LAD and first diagonal anastomosis.

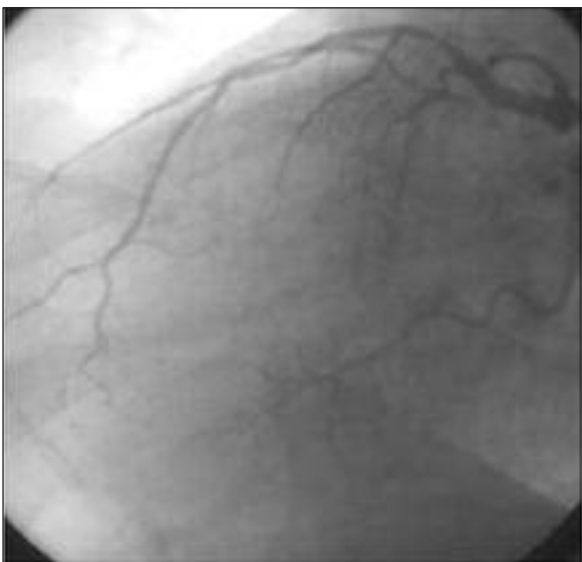


FIGURE 2: Significant stenoses to be present at the LAD and the first diagonal arteries.

ent before the treatment both for the operation and for the publication of his situation.

Surgery was performed with the median sternotomy. Malposition of the heart was in concurrence with the echocardiographic findings (Figure 3). RITA and vena saphena magna vein grafts were harvested and the cardiopulmonary bypass (CPB) was initiated after a single stage venous and aortic cannulation. Routine antegrade cardioplegia was administered. RITA and saphenous vein grafts were anastomosed on the LAD and the first diagonal branch respectively (Figure 4). The operating surgeon stood at the left side of the patient during the operation. The patient was

weaned from the CPB in normal sinus rhythm and without inotropic support. After an uneventful ICU and ward stay he was discharged from the hospital on the 6th postoperative day in good condition.

DISCUSSION

Dextrocardia with situs inversus is a rare condition but both diagnostic and therapeutic approach for an atherosclerotic heart disease should be the same as in patients with situs solitus.³ The mirror image of the heart does not pose a difficulty for surgical myocardial revascularisation. Previous reports showed that conventional and off-pump procedures are similar in these patients.⁴⁻⁷ We found this case to be interesting and wanted to share our experience as this is the third case in the literature to be presented from Turkey.⁸

In this case we were not in need of unaccustomed techniques throughout the operation.

The RITA was preferred as the arterial graft and the operating surgeon stood at the left side of the patient throughout the operation due to the anatomical malposition of the heart except for the standard sternotomy and closure of the sternal bone. We were anxious to decide whether the right or the left internal thoracic artery to be harvested and were reluctant to use the RITA as the arterial graft but investigation of the literature did not unveil any discussion on this topic so finally we decided to use the RITA in order to avoid a possible shortness in the graft length.

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