

MYOCARDIAL BRIDGE SURGERY PERFORMED BY OFF PUMP TECHNIQUE: A REPORT OF TWO CASES

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SUMMARY

Two patients, 43 and 51 years old, were admitted to our department with angina complaints. Coronary angiographies showed no atherosclerotic changes, but myocardial bridges located on the the left anterior descending artery (LAD) in both patients. Medical management started with beta-blockade drugs. In spite of this, no improvement was achieved, and anginal episodes lasting for 15 minutes insisted. Under these conditions, patients were submitted to coronary artery surgery without cardiopulmonary bypass, myotomy were performed to the involved segments.

Key Words: Myocardial Bridge, Myotomy, Off Pump Surgery

ÖZET

"Off Pump" Teknikle Yapılan Miyokardiyal Band Cerrahisi: Vaka Sunumu

Biri 43 yaşında diğeri 51 yaşında iki ayrı hasta göğüs ağrısı nedeniyle kliniğimize başvurdular. Koroner anjiyografileri, aterosklerotik değişiklikler olmadığını, fakat her iki hastada da LAD (sol anterior inen) arter üzerinde miyokardiyal band olduğunu gösterdi. Beta-blokerler ile medikal tedavilerine başlandı. Bu tedaviye rağmen hiçbir gelişme sağlanmadı ve hastalarda 15 dakika süren göğüs ağrısı epizodları gelişti. Bu şartlar altında hastalar minimal invaziv koroner arter cerrahisine sevk edildiler ve kardiyopulmoner baypas kullanılmaksızın miyokardiyal band olan segmentlere myotomi operasyonu yapıldı.

Anahtar Kelimeler: Miyokardiyal Band, Miyotomi, Off Pump Cerrahi

Myocardial bridges, primarily described by Reyman in 1737 and Black in 1805 and result systolic compression to the epicardial coronary arteries are most probably randomly noticed (1). In postmortem studies, solitary or multiple bridges are reported in 5-86% frequency (2). These myocardial bridges are confronted in 0.5-33% rate (3). The majority are seen in LAD (1,2). In spite of high frequency rate of their presence, these bridges hardly results to ischemia and symptoms. Although they are described as a

simple variant of coronary artery anatomy, many complications such as angina, myocardial infarction, atrioventricular block or sudden death related to myocardial bridges were reported (2-4). In addition, Roul et al. reported a left ventricle dysfunction case due to the myocardial bridge (3). The importance of the myocardial bridges are still in debate. But these are generally accepted as benign lesions. We presented two myocardial bridge cases 43 and 51 years old with ischemic symptoms.

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Case Report

Case I: 43 year-old female patient was admitted to our hospital with anginal complaints. It was informed that the angina was present for two years and increased its severity for the last 3 weeks. Serial electrocardiograms and myocardial enzymes studied excluded myocardial infarction. On the 2nd day of hospitalisation angina recurred and T inversion was observed during the anginal episode in the anterior derivations. In the coronary artery angiography performed because of these findings no atherosclerotic changes were observed in none of the coronary arteries, but an occlusion appearing in systole and disappearing in diastole located segmentally 2 cm long in the mid 1/3 LAD was noticed. Other vessels and left ventricle wall motions were evaluated normally. Septal hypertrophy was noticed in echocardiography. Although management was initiated with beta-blockade drugs, no improvement for the complaints was achieved and surgery was decided. A longitudinal myotomy on LAD was performed without cardiopulmonary bypass (off pump technique) via median sternotomy. After the operation, the patient has not complained of angina in her controls.

Case II: 51 year-old male patient was admitted to our hospital with recurring anginal complaints. Although no evidence for myocardial infarction was found following the results of the serial electrocardiograms and enzyme studies because of the frequent recurring complaints resistant to drug therapy coronary angiography was performed. In coronary angiography, although no atherosclerotic changes were seen in none of the coronary arteries on LAD, beyond the first diagonal artery, nearly 1 cm long segmental occlusion appearing in systole and disappearing in diastole was observed. In echocardiography,

left ventricle hypertrophy particularly profound in the septum was noticed. Beta-blockade therapy was initiated, but no improvement was achieved

in the symptoms and the patient underwent operation. Longitudinal myotomy was performed by off pump technique via median sternotomy. The patient has not complained of angina in his controls after the operation.

Discussion

All myocardial bridges aren't symptomatic. In a study of Noble et al., symptoms appear when these bridges compress the coronary arteries over 75% and particularly following tachycardia due to the shortening of the diastolic phase the myocardial bridges may lead to myocardial ischemia symptoms (5). It was also reported that it is necessary for their resulting in symptoms the shortening of diastolic period (such as tachycardia) or accompanying cardiac anomaly (hypertrophy) (4). We observed profound septal hypertrophy in both cases by preoperative echocardiography and postoperatively performed myocardial perfusion scintigraphies. Besides, Morales et. al noted the importance of the length of the segments involved in the development of the symptoms (4). In our cases, it's seen that the length of the myocardial segments involved are about 2 cm.s. In the management of myocardial bridges, beta-blockade drugs, myotomy and intracoronary stent are the options. Although, beta-blockade drugs obtain a short term recovery, long term benefits couldn't be approved (6). The patients should be promptly evaluated clinically and angiographically before surgical decision. Untolerable angina, unsufficient response to the medical management, malign arrhythmia, frequent syncope attacks should direct us to the surgery. We showed in these cases without cardiopulmonary bypass, myotomy ceases the ischemic symptoms of the patients.

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