OLGULAR

SURGICAL REMOVAL OF ENTRAPPED BROKEN CORONARY ANGIOPLASTY CATHETER IN LEFT MAIN AND CIRCUMFLEX CORONARY ARTERY

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ÖZET

Sol Ana ve Sirkumfleks Koroner Arterde Kırılan Koroner Anjiyoplasti Kateterinin Cerrahi

Perkutan translüminal koroner anjiyoplasti, birçok vakada koroner arter baypas cerrahisi için geçerli bir alternatiftir. Kırılan koroner anjioplasti kateterinin çıkartılamaması translüminal koroner anjiyoplastinin nadir bir komplikasyonudur. Bu olgu sunumu, koroner anjiyoplasti uygulanırken sol ana koroner arter ve sirkumfleks arterde takılarak çıkartılamayan kateter nedeniyle acil koroner arter bypass cerrahisi uygulanan bir vakayı sunmaktadır.

Anahtar Kelimeler : *Anjiyoplasti, Kateter Kırılması, Cerrahi Çıkartma.*

SUMMARY

Percutaneous transluminal coronary angioplasty (PTCA) represents a valid alternative to coronary artery bypass grafting (CABG) in many cases. The entrapment of the broken coronary angioplasty catheter is an uncommon complication of transluminal coronary angioplasty. This case study describes a patient who underwent emergent CABG as a result of an entrapped catheter which was broken in the left main and circumflex coronary arteries during the angioplasty procedure.

Key Words : *Angioplasty, Catheter Entrapment, Surgical Removal.*

INTRODUCTION

Several mild to severe complications have been brought (vascular complications, subacute stent thrombosis, stent malposition, stent embolisation, catheter entrapment) by the widened indications for PTCA and the use of intracoronary stent due to aterosclerotic coronary heart disease (1). We are reporting a case where a balloon angioplasty catheter had broken and a thirty three centimeters long piece entrapped in the left main coronary artery (LMCA) and proximal circumflex artery (Cx).

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CASE REPORT

A 64 year-old man with stable angina pectoris was admitted to the hospital and coronary angiogram was planned. His electrocardiogram (ECG) showed anteroseptal T wave abnormalities. Coronary angiogram displayed a tortuous left anterior descending artery (LAD) with 85% stenosis at the origin of second diagonal artery, Cx with a single high grade stenotic lesion in the proximal region before first obtus branch. Due to his stenotic lesions PTCA was planned. While the procedure was in progress, following balloon angioplasty to the Cx artery, it was recognized that the catheter was broken and entrapped. Following different manuplations to pull the catheter, it was observed that a part of the catheter was located in the LMCA/Cx artery. ECG showed ST elevation over the anteroseptal wall. Any attempt to retrieve the stent into the remaining part of the catheter by using forceps, snare or basket was considered dangereous, because it could give harm to the LMCA and Cx.

The patient was fully heparinized and transferred for operation within 30 minutes after the catheter entrapment. After induction of anesthesia, the patient was fully monitorized. As the patient's hemodynamic status was stable, the IABP wasn't inserted and LIMA prepared before cannulation. The operation was performed with cardiopulmonary bypass and moderate systemic hypothermia (32°C). The heart was vented through the right superior pulmonary vein. After the X-clamp was applied, the heart was arrested with cold blood antegrad cardioplegic solution via aortic root cardioplegia cannula, an aortotomy was performed and the catheter's tip was seen in the ostium of LMCA (Figure 1). The catheter could easily be removed through the ostium with forceps, and no traumatic changes was observed to left coronary ostium (Figure 2). The aortotomy incision was closed. The saphenous vein graft was used to graft Cx and LIMA for LAD. After the proximal anastomosis, the patient recovered from cardiopulmonary bypass without any problem. The ST segment elevation in the ECG prior to operation got down to normal following operation.

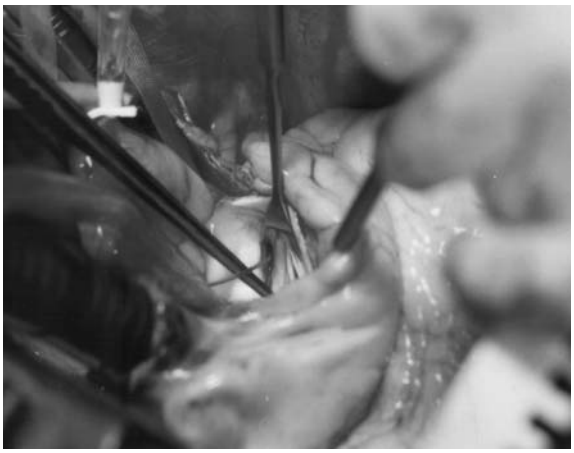

Figure 1 : Broken and entrapped angioplasty catheter in the left coronary ostium.

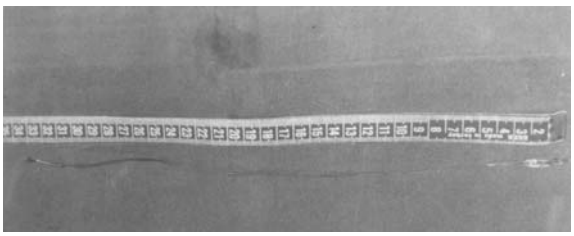

Figure 2 : Broken angioplasty catheter after removal from the left coronary artery.

The postoperative course was uneventful. The patient was discharged on the 7th postoperative day with beta-blocker and antiaggregant therapy. He became angina free one year later.

COMMENT

PTCA represents a valid alternative to CABG in various of cases. Despite the increase of experience, the technical improvements in the procedure and the materials used, a considerable rate of acute complications can be seen following PTCA (4%-7%) (2). Our study describes a case of broken and entrapped coronary angioplasty catheter during Cx coronary artery baloon angioplasty.

At the time of entrapment, a transcatheter approach for removing the catheter was a considerable approach which could be better, safer and faster than a surgical procedure. But in the present case the location of the entrapped catheter presented a potentially life threatining complication. "Erez et al" reported a similar case with an entrapped stent in the proximal left coronary artery system in which they also considered early operation without trying to retrieve the catheter by transcatheter approach (3).

In our case the decision of avoiding the transcatheter methods to retrieve the stent seem to be logical because of two factors. First is manupulation at this site might have damaged LMCA. The other is the clinical instability with the elevated ST segments in anteroseptal leads; a potentially dangerous situation which required an urgent surgical intervention.

As reported in the literature, CABG is a procedure used in the cases of stent loss, misplacement and embolisation (4). We used an aortotomy incision to remove the broken catheter and combined the procedure with revascularization of LAD and Cx.

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