

FEMORAL ARTERY LIGATION DUE TO THE HERNIA REPAIRING (CASE REPORT)

Traumatic vascular injuries are among the serious complications of inguinal hernia operations. In this case we reported a patient whose right external iliac artery and right common femoral artery were anastomosed with a saphenous vein graft interposition following ischemic complaints due to ligation of right common femoral artery during a surgical repair of the inguinal hernia. The case will be discussed under the review of literature.

Key words: Inguinal hernia, complication, arterial ligation

CELALETTİN GÜNAY, MD
ALPER UÇAK, MD*
FARUK CİNGÖZ, MD
KAMİL SARKIŞLALI, MD
HARUN TATAR, MD

INTRODUCTION

Traumatic vascular injuries developed during inguinal hernia operation are rarely encountered but extremely serious complications.¹ Injuries of external iliac artery and vein due to close proximity to surgical area are the most reported cases. Detection time of complication depends on the extent of complaints developed at early or late postoperative period.¹⁻³ In this case the patient manifested with the ischemic symptoms originated from right lower extremity due to ligation of right common iliac artery during the right inguinal hernia operation. Then the patient's right external iliac artery was anastomosed to femoral artery by interposing a saphenous vein.

CASE REPORT

The patient; a 21 years old male; underwent surgical repair of right inguinal hernia. Arterial occlusion was diagnosed with the right lower extremity discoloration and pain due to femoral artery ligation probably developed during surgical repair. Thereafter patient was transferred to our clinic; Department of Cardiovascular Surgery at Gulhane Military Medical Faculty.

When we examined the right lower extremity, right femoral artery and distal pulses were not palpable. Right foot was cold, pale, and also the toes were cyanotic. It was noticed that he underwent surgical repair of right inguinal hernia from medical history. It was minded that iatrogenic ligation of right femoral artery (RFA) during the previous operation. So digitally subtraction angiographies (DSA) of lower extremity arteries of patient were performed bilaterally via superficial femoral artery. It was revealed that RFA was occluded at the mid-portion level (Figure 1).

From:

GATA (Gulhane Military Medical Academy), Cardiovascular Surgery Department, ANKARA

* GATA Haydarpasa Training Hospital, Cardiovascular Surgery Service, ISTANBUL

Address for reprints

Dr. Faruk CİNGÖZ
GATA Subay Lojmanları,
Serter Apt.2/9
06018 Etlik Ankara
Tel.: +90 312 3046789
e-mail: fcingoz@yahoo.com



Figure-1: Occlusion of the right femoral artery (by DSA).

In the operation room RFA of patient was surgically explored. It revealed that RFA was ligated and occluded by the suture material. Suture material was deeply introduced to the tissue surrounding CFA and impeding the arterial blood flow. Since the ligated segment of common



Figure-2: Arterial flow at the right femoral artery after right ilio-femoral saphenous vein bypass

femoral artery was traumatized and thrombosed, it was excised. Then saphenous vein graft was reversed and interposed between the external iliac and the femoral artery. Control DSA was performed postoperatively and normal arterial blood flow of femoral artery was documented (Figure 2). The patient was discharged with prophylactic acetylsalicylic acid following a postoperative recovery period without any complication.

DISCUSSION

Hemorrhage or ischemia due to injury of arteries and veins in close proximity to inguinal area, disturbance of testicular blood flow, incision of vas deferens, and injury to small intestine or bladder are the reported complications developed during surgical repair of inguinal hernia.¹⁻³ In this case report we presented a surgically arterial repair of a patient suffered ischemic symptoms developed following arterial occlusion due to iatrogenic RFA ligation during surgical repair of right inguinal hernia. The patient was surgically treated with a saphenous graft interposition between right external iliac and right common femoral arteries and discharged following a recovery period without any complication.

Shamberger RC et al. reported 4 cases similarly suffered arterial injury during the inguinal hernioraphy operation at the 1984.¹ One of cases had been performed saphenous vein interposition between external iliac artery and superficial femoral artery. After 17 years period a false aneurysm was developed over the graft and saphenous vein graft was substituted with a Dacron graft interposed between arteries. In the second case injured artery had been repaired by Dacron pledged with a single mattress suturing. However thrombosis developed just at the early post-operative period had urged the surgeons to repair by interpositioning of a Dacron graft. In the third case Dacron graft interposition between common iliac and common femoral artery was performed after 9 months following hernioraphy

operation. Last case was a patient whose external iliac artery had been narrowed by sutures and treated by PTFE (poly tetra flour ethylene) graft interposition. Although our case had been complained about ischemic symptoms initiated just after a few hours following operation, he was admitted our clinic after a 5 day period following the surgical repair of inguinal hernia. The case was delayed due to overlooked ischemic symptoms indicating arterial occlusion.

Van Buren et al. reported a case of iliac artery thrombosis resulted from surgical repair of inguinal hernia.² Aghaji MA et al has reported 4 injury cases of major vascular structures developed during inguinal hernia repair³. While three of them had been performed primary repairing with Dacron or saphenous vein graft, the other patient had been dead due to extremely bleeding and hypovolemic shock. Popovic J et al presented a patient whose femoral vein had been reconstructed with a saphenous vein graft following an injury to femoral vein during the inguinal herniorrhaphy operation.⁴ In our case, femoral vein was explored and the right femoral area vertically incised in order to interpose a saphenous vein graft with an appropriate caliber and size obtained from there. We suggest that in the condition of an injury to the artery, patchplasty by a vein or an interposition of vein graft following primary repair is the right strategy.

As a conclusion, major vascular injuries may develop due to narrowing or obstruction and also laceration of external iliac artery, femoral artery and veins via suturing during the inguinal hernia repair. It should be minded after such operations by the surgical team. A basic examination of distal peripheral pulses will certainly provide significant clinical data in order to exclude a vascular complication related to surgical repair of hernia.

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