Introduction  Surgery of ACL deficient knees is very frequent nowadays due to advanced surgical techniques, sophisticated implants and large number of surgeons. Therefore, the number of revisions for various reasons is growing up. There are several well known reasons for failed surgery. This paper reported a case of revision surgery in a patient with previously done and failed reconstruction of ACL.

Case outline: Reviewing the clinical findings and X-rays we found out peculiar position of the transplant and tunnels as a cause of the failure. We haven’t found such complication reported in literature therefore we decided to report the case.

Conclusion: Variety of implants and instruments can ease the surgery but basic anatomical knowledge of position and relations of the knee ligaments are essential for good surgical outcome.

Key words: ACL, position of tunnels, complication

INTRODUCTION

Surgery oft he ACL deficient knees advanced in last two decades due to more sport activities, frequency of injuries, precise instrumentations, easier operative techniques and better fixation of implants. Therefore more surgeons are performing ACL surgery nowadays. Arthroscopy assisted ACL surgery using BTB or ST/GR transplant is nowadays standard, no matter what type of fixation should be chosen. Complications in the ACL surgery are well known and described. The most frequent postoperative complications are instability, loss of extension and pain on the donor site caused by various reasons e.g. position of the tunnels, insufficient notch plasty, cyclop lesion, and occasionally calcification of the graft. Intraoperative complications are related to the fractures of patella, fracture of the femoral tunnel, supracondy lar femoral fracture, or insufficient harvesting of the graft.

In the paper we reported a case of the patient who underwent ACL surgery which results in immediate failure.

CASE REPORT

Patient, 30 years old had been examined, for the first time by us, in October 2004 for repeated instability, lack of extension and temporary pain in the previously operated left knee. He sustained knee injury in august 2001, playing football. ACL injury had been confirmed after the examination. He had been immobilized in plaster cast for four weeks and after cast was removed he started physiotherapy. The patient reported repeated instability of the injured knee.

Open ACL reconstruction with quadriceps tendon and bone blocks, (BTB graft) was performed in March 2002, in one of the hospitals. The wound heals without complications and he started physical therapy. All the time after the patient had unstable knee and lack of extension. At the end of the first year the screw from tibial side was removed.

On the examination we noticed scars of the incisions. One of them was over quadriceps tendon, then curved medially to the middle of the patella. There was small incision over medial femoral condyle and small incision laterally near tibial tubercle. We considered that quadriceps tendon with bone blocks (BTB graft) was used as transplant. The range of motion was full flexion and 5 degree lack of extension, anterior drawer ++, Lachman positive as well as pivot shift (Figure 1).

On the X-ray we saw transpatellar screw, probably due to patellar fracture during removal of the bone block, and screw with the washer for the fixation of the femoral part of transplant. On the AP projection we saw tibial tunnel on the lateral side, beginning laterally beside tibial tubercle upwards to the middle of tibial plateau towards medial femoral condyle. On the medial femoral condyle, in the "notch" we saw the round shaped entrance of the femoral tunnel (Figure 2 pointing by the arrows).
We were little bit confused at first moment and we considered that the LCP reconstruction was performed and that there was error in medical report. We realized the LCA reconstruction had been done when we studied at the profile X ray (Figure 3, pointing by the arrows) where we noticed the tunnel has upwards direction towards intercondylar eminence.

We finally concluded that the cause of the instability was reverse (missed?) position of the tunnels (Fig.4). Very unusual cause, that we haven’t found in the literature yet.

It was obvious that revision surgery would be necessary, but we prefer to do the arthroscopic examination first, to make a plan for revision.

Arthroscopic examination showed that tibial tunnel, whose direction was from lateral tibial cortex medially and upwards, was far enough anterior and lateral allowing right position of the new tunnel on the footprint of the LCA. Femoral insertion (Fig.5) of the transplant was on the medial femoral condyle anterior to the anatomic insertion of the LCP. LCP was intact behind the transplant with full thickness and tension. (Fig.6 ). Simply said the operation was performed in Z mirror like’ position .

Our decision was to perform the revision with four bundles ST/GR. Revision was done in tourniquet, arthroscopically assisted. The ST/GR transplant was 8mm width and 11 cm long. Tibial tunnel has 50dg angle, and femoral tunnel was on 1 o’clock position. We used MITEK instruments for positioning of the tunnels and transcondylar fixation RIGIDFIX ST, on the femoral side. On the tibial side we used bioacril screw 8x30 mm. Tension of the 60 KN was applied in 30 degrees of flexion (Fig 7).

There were no complications postoperatively, sutures were removed on 14th postop day. The physical therapy started day after the operation, with weight bearing as tolerated. Passive continuous motion started on the third day. On the 7th postop day the patient was discharged and transferred to the daily physical therapy unit. The patient restored full range of motion and has stable knee. The quadriceps muscle has excellent strength, but the diameter was 1,5 cm less. The patient returned to the sport activities.

**DISCUSSION**

Arthroscopy assisted reconstruction of ACL deficient knees is very demanding operation with lot of known complications such as donor site morbidity, lack of extension of the knee, stiff knee and knee laxity caused by improper placement of the transplant. These complications are seen on examination of the patient. Some complications like rupture of the transplant, cyclop lesion, impingement of the transplant are best seen by arthroscopic examination. Williams et all. reported 7% traumatic ruptures of the transplant at a mean of 10,7 months postoperatively.

The reported case was very doubtful on the beginning of examination because no one could predict such reason for failure.
As mentioned above, there were and would be complications in surgery, due to poor surgical technique or some other natural causes. There are a lot of new sophisticated guide instruments that make surgery easier and safer. Some surgeons believe that brave heart and armory is enough, but her majesty knowledge should be priority.

**SUMMARY**

**NEUABčAJENO POSTAVLJANJE KOšTANIH TUNE- LA U NEUSPEšNOJ REKONSTRAKCIJI PREDNJE UKRšTENE VEZE**


Zaključak: Raznovrsni implantati i instrumentarijum mogu učiniti hirurški zahvat lakšim, ali osnovna znanja iz anatomije koji se odnose na poziciju i odnose ligamenta kolena su neophodni za dobar ishod lečenja.

**Ključne reči:** LCA, komplikacije, koštani tunel

**BIBLIOGRAPHY**


