

Treatment with Modified Judet Quadricepsplasty in Posttraumatic Extension Contractures of Knee

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Objective

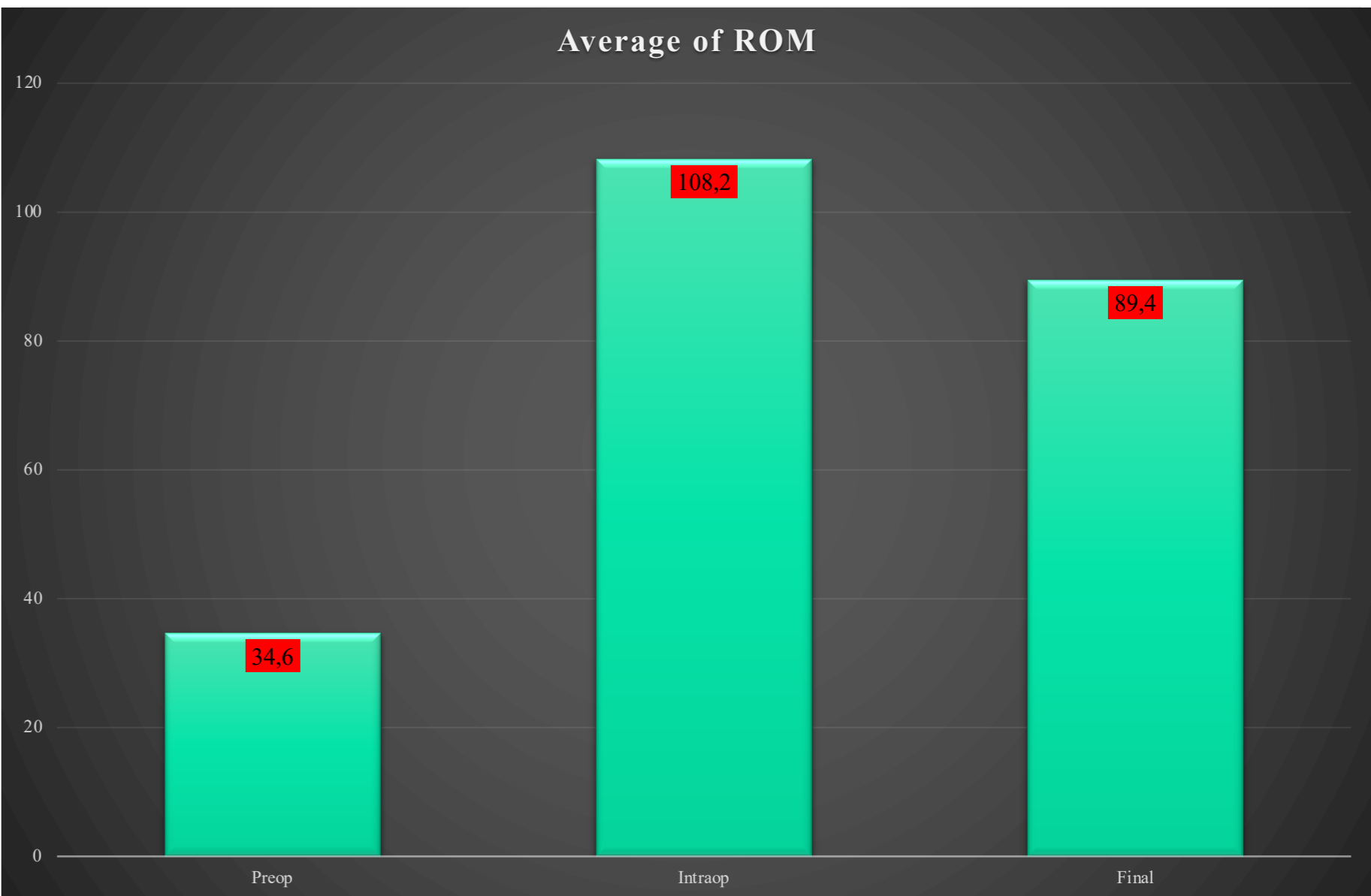
Our aim is to evaluate the results of the modified judet quadricepsplasty technique in the surgical treatment of knee posttraumatic extension contractures on our patients and to give an idea about the appropriate treatment method.

Methods (font Arial, 55pt)

Inclusion criteria: Preoperative no range of motion (ROM) was increased after manipulation under anesthesia, history of trauma, older than 18 years, no infection, preop ROM less than 60°
Exclusion criteria: Early knee contractures opened only with rehabilitation, follow-up period <12 months
It was a retrospective case-control study. 13 patients who were operated with MJ between 2015 to 2021. All patients were male and soldier. Age ranged 23 - 33 years old. 10 femur fracture, 2 femur and tibia fractures, 1 tibial platau fracture. 10 of the patients were operated with a spider frame.
In some patients, we used iv transamine as a bolus dose of 15 mg/kg half an hour before the operation and as a continuous infusion of 10 mg/kg during the operation.
After epidural anesthesia with tunneled catheter (ETC), first a 10 cm lateral incision was made. Tensor facia lata, joint capsule, retinacular structures, iliotibial band, vastus lateralis and intermedius were released. Second, a 7 cm medial incision was made. Joint capsule, vastus medialis were released. Additional 5 cm lateral proximal incision was made with leave intact skin. Quadriceps tendon was released. Release of rectus femoris not performed. All incisions closed with a drain.
Postop management was very important. ETC was used for patient-controlled anesthesia for continuous infusion and bolus.
The drains were usually removed until 10 ml in the last 12 hours.
Continuous passive motion (CPM) was started in day 0 and used all day. Half an hour before the active exercise (end of first week), bolus done through the ETC.

Results

Time from injury to operation was mean 19.5 months. Preop and perop iv transamine was administered to 8 of the patients. The mean hospital stay was 9.2 days. Follow-up time was mean 15.5 months.
According to Judet criteria, functional outcommes were excellent in 6 patients, good in 4, fair in 2 and poor in 1 case.
Preop Average of flexion (AF) was 34,6° . Intraop AF was 108,2° . AF gain at the surgery is 73,6° . Final AF after rehabilitation was 89,4° . AF loss at the last follow-up of the patients was 18,7° compared to the intraoperative period. AF gain of the patients was 54,8° compared to the preop period.
Blood transfusion was performed in seven patients on the 2nd day. IV transamine was not used in four of these patients.
1 patient had patellar tendon rupture. After reoperation, he has 10° extension lag. No extension lag was observed in any patient except this patient.
Wound dehiscence was seen in 2 patients. They were treated with a dressing successfully.
No patients presented infection.



Averages of joint range of motion preoperative, intraoperativeand after final rehabilitation



A patient from our series. Intraoperative knee stiffness with a femoral shaft fracture treated with a circular external fixator.



A significant gain was achieved in knee flexion range after modified Judet quadricepsplasty.

Conclusions

Modified Judet Quadricepsplasty is effective surgical treatment method for posttraumatic extension contractures of knee. Intensive rehabilitation program is necessary for continued success. Despite this, patients have loss of flexion. Use of iv transamine reduces blood transfusion.