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The Impact Of Ischemia Tourniquet On Anterior Knee Pain Following Arthroscopic Meniscectomy: A Randomized Controlled Trial

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Disclosure Information

- Nothing to disclosure



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INTRODUCTION

- Tourniquet use in knee arthroscopy has been related to **greater loss of muscle mass**, especially in the vastus medialis.
- Different works relate vastus medialis hypotrophy as a possible etiology of **anterior knee pain**.
- Thus, it is possible to think that the use of **ischemia tourniquet could cause a higher incidence of patellofemoral pain**.



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OBJECTIVES

- The aim of this study is to assess **whether the use of tourniquet ischemia** causes more **anterior knee pain** compared to its non-use in simple meniscectomies.



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METHODS

Anterior knee pain

Global Pain

Muscle mass



KUJALA SCORING QUESTIONNAIRE

Name: _____ Date: _____
First Last
Physician: _____

1. Limp:
☐ a) None
☐ b) Slight or periodic
☐ c) Constant

2. Support:
☐ a) Full support without pain
☐ b) Painful
☐ c) Weightbearing impossible

3. Walking:
☐ a) Unhindered
☐ b) More than 2 km
☐ c) 1-2 km
☐ d) Unusable

4. Prolonged sitting with knee flexed:
☐ a) No difficulty
☐ b) Pain after exercise
☐ c) Constant pain
☐ d) Severe pain
☐ e) Unusable

5. Pain:
☐ a) None
☐ b) Slight and occasional
☐ c) Interferes with sleep
☐ d) Occasionally severe
☐ e) Constant and severe

6. Swelling:
☐ a) Possible with partial weight bearing
☐ b) Unusable
☐ c) More than one occasion over 1 day
☐ d) More than two dislocations

7. Running:
☐ a) No difficulty
☐ b) Pain after more than 1 km
☐ c) Slight pain from the start
☐ d) Severe pain
☐ e) Unusable

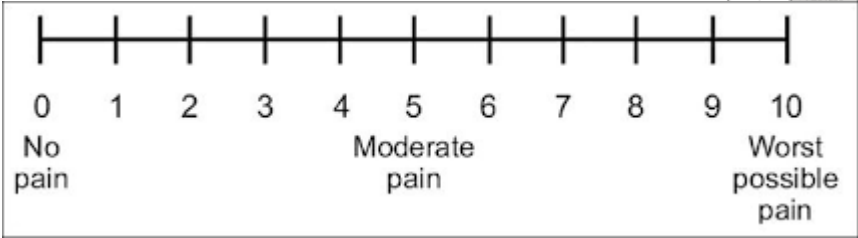
8. Atrophy of thigh:
☐ a) None
☐ b) Slight
☐ c) Severe

9. Flexion deficiency:
☐ a) None
☐ b) Slight
☐ c) Severe

Score: _____

Print Score Submit

Kujala score



Preop

Surgery

6 weeks

RESULTS

- 72 patients were included, 52 men and 20 women, with a mean age of 44.5 years (SD 6.8).
- 37 patients were included in group-1 and 35 in group-2 and comparable in demographic variables
- The groups were **comparable** preoperatively in:
 - subjective patellofemoral pain (Kujala 62.4 vs 64.4, $p=0.74$)
 - anterior knee pain (585.8kPa vs 639.1 kPa, $p=0.35$)
 - global pain (VAS 5 vs 4.9, $p=0.91$)
 - vastus medialis volume (1569.1mm² vs 1410.8mm², $p=0.90$).



RESULTS

Postoperatively, patients in group-1 (tourniquet use) had:

- **Greater subjective patellofemoral pain** (Kujala 84.9 vs 90.2, $p=0.03$)
- **Greater anterior knee pain** (490.4kPa vs 621.6 kPa, $p<0.01$).
- Comparable medialis volume measured by MRI (1421.5mm² vs 1292.25mm², $p=0.52$).
- Comparable global pain in VAS (1.7 vs 1.9, $p=0.49$)



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CONCLUSIONS

- Tourniquet use in simple meniscectomy is associated with greater anterior knee pain.
- However, it has not been possible to relate vastus medialis atrophy as na etiological factor.



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