



ORTHO NEWSCAST



Volume2 | Issue 17 | 2021

Dear Doctor,

Greetings from Micro Labs. We are happy to bring you "Ortho Newscast" which contains latest and interesting news in the field of Orthopaedics.

This issue contains

- Knee osteoarthritis: Functional assessment of the anterior cruciate ligament
- Kinematic aligned knee compared to their mechanical knee in knee arthroplasty
- Intertrochanteric Fracture and Proximal Femoral Nailing

Should you require any specific article or medical information, please feel free to contact us at medicalservices@microlabs.in

Looking forward to your valuable feedback

Best Regards,

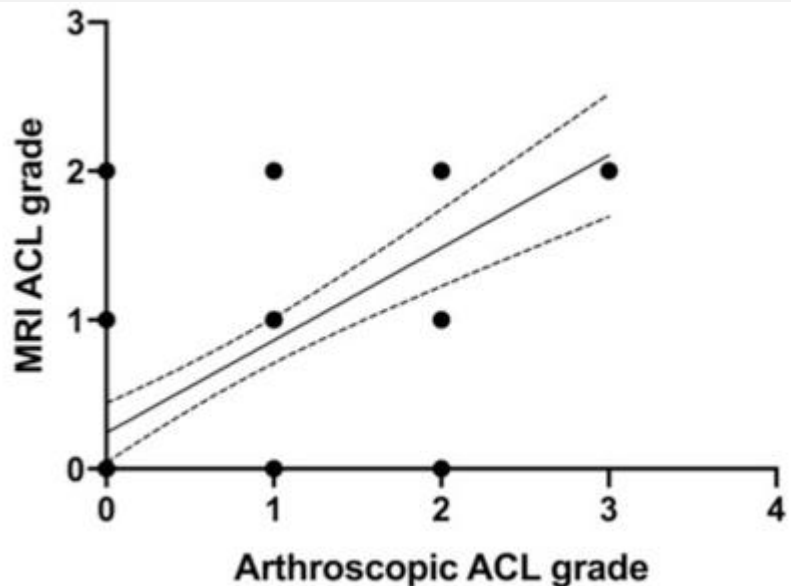
Medical Team,

Micro Labs Limited



1. Knee osteoarthritis: Functional assessment of the anterior cruciate ligament

Introduction: One of the causes of low patient satisfaction is anteroposterior knee instability associated with anterior cruciate ligament (ACL) deficiency. The causes of failure to restore normal kinematics may be the degraded integrity of the ACL when exposed to osteoarthritic conditions. Therefore, it is important to determine



Spearman's correlation analysis showed a moderate correlation between the arthroscopic ACL grade and MRI ACL grade

preoperatively whether the ACL functions normally.

Materials and Methods: Eighty patients with knee OA were evaluated for anterior knee joint laxity, Kellgren-Lawrence grade, MRI ACL grade, arthroscopic ACL grade, osteophytes, and meniscus tears.

Results: The medial meniscus tear group showed significantly higher anterior knee joint laxity than the non-tear group, whereas the lateral meniscus tear group had significantly lower laxity than the non-tear group. Anterior knee joint laxity was shown to be significantly correlated with the osteophyte score and the presence of medial meniscus tears and lateral meniscus tears. The arthroscopic ACL grade was moderately correlated with the MRI ACL grade.

Conclusion: osteophyte scores and medial and lateral meniscus tears correlated with ACL function. The MRI ACL grade was strongly correlated with the arthroscopic ACL grade, and both grades showed a similar trend: anterior knee joint laxity decreased as the grades increased, suggesting a decrease in the elasticity of degenerated ACLs.

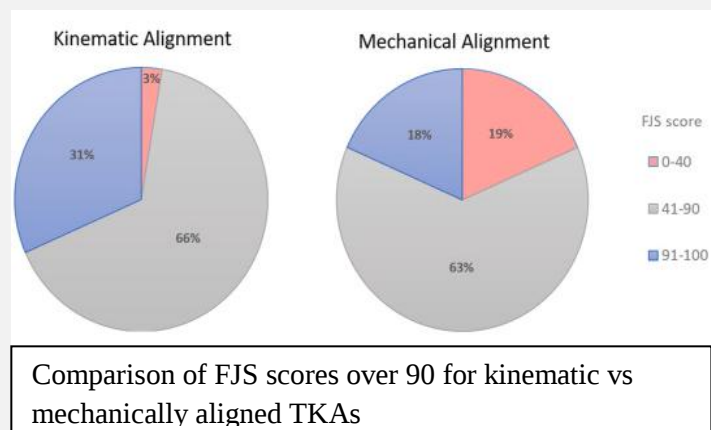
Reference: Ogawa H, et al. Functional assessment of the anterior cruciate ligament in knee osteoarthritis. J orthop. 2021; 23:175-179.



2. Kinematic aligned knee compared to their mechanical knee in knee arthroplasty

Objective: To compare knee joint awareness following kinematic alignment (KA) TKA in patients who had previously undergone mechanical alignment (MA) on their contralateral knee.

Methods: All consecutive patients who underwent staged bilateral TKA, the first using MA technique and the second utilizing the KA technique, without patient specific instrumentations were included. Primary outcome was assessed by the Forgotten Joint Score (FJS) with a minimum 1-year follow-



up. Differences between knees were also assessed by three predefined key questions. Secondary outcome were differences in knee alignment assessed by long standing x-rays.

Results:

38 patients (76 knees) met inclusion criteria and were included in the analysis. The mean time for follow up was significantly shorter ($P < 0.01$) in the KA knees (1.8 years, SD 0.3) compared to the MA knees (3.1 years, SD 0.8). Patients were significantly less aware of their KA knees compared to their MA knees; median FJS scores were 74.0 for the KA group and 67.0 for the MA group. Overall, 31 patients (81.6%) preferred their KA knee over their MA knee 6 (15.8%) ($p < 0.001$). KA bone cuts resulted in net varus of the medial proximal tibia (86.9, SD 2.0) and valgus of the distal femur (86.6, SD 2.8). However, the overall alignment was similar.

Conclusions: Patients who had staged bilateral knee arthroplasty were less aware of the knee that was kinematically aligned compared to the knee that was mechanically aligned.

Reference: Yaron BZ, et al. Patients undergoing staged bilateral knee arthroplasty are less aware of their kinematic aligned knee compared to their mechanical knee. J Orthop. 2021;23:155-159.



3. Intertrochanteric Fracture and Proximal Femoral Nailing

Background: Neck of femur fractures in hip resurfacing patients are rarely reported injuries. Hip resurfacing arthroplasty has been gaining popularity in recent years and is usually used for young patients with hip arthritis with physically demanding jobs as its advantages include less bone resection, lower dislocation rates, and possible lower wear and long term survival rate.

Case summary: 65 year old gentleman, presented after a fall on his left hip when he tripped over a step and presented with pain in left hip and inability to weightbear. The preoperative X rays depicted below confirmed the complex injury with stable grade 1 (Boyd and Griffin) intertrochanteric fracture with bilateral resurfacing hip arthroplasty in situ. This was an isolated and closed injury with no associated neurovascular deficit.



Follow up pictures with union at fracture site

it was decided to fix the fracture while retaining the prosthesis in an attempt to avoid major reconstruction. There was no evidence of loosening or osteolysis of the Birmingham Hip Resurfacing (BHR) implants on preoperative X rays. Patient was taken to theatre within 36 hours of admission. Satisfactory reduction was achieved intraoperatively after closed reduction on the traction table. The fracture was fixed using Expert Lateral Femoral Nail (Synthes) and two proximal locking screws were inserted, one superior and one inferior to the central peg of BHR femoral component. Care was also taken to avoid drilling near the prosthesis so that the prosthesis fixation would not be jeopardized. Post operatively he was allowed to mobilise without any weight bearing restrictions and he was discharged on 3rd postoperative day with no complications. Post operative radiographs taken on day 2 were satisfactory. Examination of hip at follow up showed a painless range of movement equal to that of his other hip. Radiographs at 6 month follow up confirmed the healing of the fracture site.

Discussion : the the success of the technique relies on achieving stable and near anatomic reduction of fracture and offers clear advantage in dealing with unstable intertrochanteric fracture with comminution or reverse oblique pattern. It also allows preservation of bone stock and retention of previous well functioning prosthesis.

Conclusion: Proximal femoral nail can be considered an option in treating intertrochanteric periprosthetic fractures in the presence of a Birmingham hip resurfacing implant

Reference: Setia P, et al. Proximal Femoral Nailing for Intertrochanteric Fracture in Birmingham Hip Resurfacing Arthroplasty Int. J. of Orth. 2020 December 28; 7(6): 1410-1412.

