Controversies in Knee Arthroscopy

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INTRODUCTION

• “Arthroscopy” has recently been in the news, with some surgeons, health fund CEOs, and the federal health minister alluding to it as:
  • Useless
  • Discredited
  • Of no benefit

• But, arthroscopy is not an operation in itself. It is a technique which can be used to:
  • Diagnose or stage disease
  • Remove tissue
  • Repair tissue
  • Transplant or reconstruct tissue
Arthroscopy

• We use arthroscopy to
  • Reconstruct ligaments such as the ACL
  • Suture torn menisci
  • Remove or fix loose bodies within the knee

⇒ None of this is controversial

• The controversy lies in the use of arthroscopy
  • As a “clean up” operation for osteoarthritis to “buy time” prior to a joint replacement
  • To treat degenerative tears of the meniscus
When I was Young...

- Arthroscopies were commonly performed to “buy time” prior to knee replacement
- Meniscectomy was degenerative tears is common
- Arthroscopies were an afterthought at the end of a list
Arthroscopic surgery for knee arthritis

- Patients and their doctors wish for a minimally invasive solution to their pain.
- The concept of arthroscopic debridement and lavage (a “clean up”) is seductive.

- What does the evidence say?
Our practice should be based on science, not tradition
We should be able to defend every decision we make with reference to the literature
So what are the controversies?

• Can arthroscopy be used as a means of delaying knee replacement?
• When does meniscectomy work?
  • Meniscectomy in the setting of OA
  • Meniscectomy in middle aged patients
180 patients, 2 year follow up
  - Greater than 4/10 pain
  - Radiographic osteoarthritis
  - Mean age 52 (±11) years

Randomised to 3 groups
  - Sham surgery (anaesthesia and incisions only)
  - Joint lavage (10 litres washed through knee)
  - Debridement (shaving of loose cartilage and meniscus, removal of osteophytes)
RESULTS

Function (walking/bending)

Pain
• Once there is arthritic change in a compartment, meniscectomy is unlikely to help
WHAT ABOUT MENISCUS TEARS?

• Traumatic tears
  • Younger patients
  • No controversy in management, respond well to surgery
    • Resect minimal amount of problematic tissue
    • Repair

Radial tear
Parrot-beak tear
Bucket-handle tear
Degenerative tears

Horizontal cleavage tears

Complex tears
Degenerative tears

- Process begins in mid-30’s
- Probably due to repeated compressive loads on the posterior medial meniscus → breakdown of highly organised collagen
• 146 patients, 35-65 years old with symptomatic degenerative meniscus tears, no osteoarthritis.

• Randomised to 2 groups:
  • Sham surgery (diagnostic arthroscopy only)
  • Arthroscopic meniscectomy
Results

A. Activity score
B. Quality of life
C. Pain after exercise
• Meta analysis of 7 randomised controlled trials of arthroscopy for degenerative meniscus tears

• Analysed for short- and long-term benefit
CONCLUSION

• No difference between groups for either short- or long-term outcomes
Is arthroscopic surgery beneficial in treating non-traumatic, degenerative medial meniscal tears? A five year follow-up

Sylvia V. Herrlin · Peter O. Wange · Gunilla Lapidus · Maria Hållander · Suzanne Werner · Lars Weidenhielm

• 96 patients with degenerative medial meniscus tears, minimal arthritis, 2 and 5 year f/u.

• 2 groups
  • Exercise program
  • Arthroscopic meniscectomy + Exercise

• Assessed for
  • Knee function
  • Activity level
  • Pain
RESULTS

• After 2 months of exercise treatment, the 1/3 of patients who reported no improvement were then offered arthroscopy.

• These patients had an improvement equal to those who responded to exercise.
Results

• No difference at 60 months between both groups
• BUT: no control group
MY GUIDELINES

• All young patients with traumatic tears ➔ repair or resect
• Young patients with degenerative tears ➔ wait 2 months, non-surgical management ➔ arthroscopic debridement
• Patients over 50 with degenerative tears ➔ non surgical management
  • Weight loss, simple analgesia, exercise plan, corticosteroid injection
  • Arthroplasty (uni or total) if arthritic change failing non-surgical treatment
The meniscus root
Meniscus root tears

- Degeneration in the posterior horn can cause a separation of the bony attachment from the body of the meniscus
  - Separation from bone
  - Radial tears near the root
- The meniscus is unable to resist hoop stresses and is extruded
Meniscus Root Tears

- A root tear is equivalent to removal of the ENTIRE meniscus, and is associated with:
  - Severe pain
  - Rapid progression of medial compartment arthritis

- Removal of meniscus tissue with arthroscopy does restore function, and is unlikely to help
Meniscus root repair

• If repairable, the meniscus’ function can be restored
  • Review by a surgeon experienced in arthroscopic root repair
• If not repairable
  • Weight loss
  • Activity modification
  • Analgesia
• Arthroplasty
  • 100% within 5 years!
Thank you