Role of Arthroscopy in Knee Osteoarthritis

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Knee Arthroscopy

- One of most widely employed procedures for internal derangement of the knee
- Role in osteoarthritis controversial and unproven
- Remains widely practiced world-wide
- Over 600,000 per year in US
Arthroscopy for Meniscal Tears

- Used to treat meniscal tears in older patients
  - Continues despite sufficient evidence

- Traditional teaching:
  - Mechanical symptoms from meniscal pathology can be improved
  - Generalized symptoms of OA cannot be improved with arthroscopy

- May even be exacerbated!
Arthroscopy for Meniscal Tears

• Conditions for considering surgical treatment:
  – Mechanical symptoms of meniscal injury
    • Locking, catching, swelling, etc
  – Corroborating exam findings
    • Joint line tenderness, effusion, motion restriction, positive McMurray Test
  – Failure to respond to non-surgical treatment
  – Exclusion of other non-knee sources of pain
    • MRI may be helpful
• Confounding the issue:
  – Up to 36-76% of asymptomatic knees may have MRI evidence of meniscal pathology!
Clinical Outcomes

- Factors that correlate with poor outcomes after arthroscopic medical meniscectomy
  - Age greater than 40
  - Varus alignment with medial meniscus tear
    - Same for valgus alignment and lateral meniscus tear
  - Deficient ACL
  - Degree of OA at time of surgery
    - The more advanced the OA, the poorer the outcome with arthroscopy!
Clinical Outcomes

• Meta-analysis of partial medial menisectomy, debridement or both

• Middle-aged or older individuals versus non-operative interventions
  – 9 RCTs / 1270 patients
  – Small benefit in pain relief favoring surgical intervention was observed at 3 and 6 months
  – Disappeared at one year and beyond!
  – No benefit in patient-reported functional outcomes were observed with surgical intervention at any time period!
• **Recommendation 18**

• We recommend against performing arthroscopy with débridement or lavage in patients with a primary diagnosis of symptomatic OA of the knee.
  
  – Levels of Evidence: I and II
  
  – Grade of Recommendation: A
Level 1 Randomized Controlled Trial

- Moseley et al. NEJM 2002
- Veterans Hospital in Texas
- Randomized, placebo-controlled trial of arthroscopy versus “sham” surgery for knee OA
- 165 patients
- No difference in either group in pain or function out to 2 years
- No clinical meaningful difference based on confidence intervals as well.
• **Recommendation 18**

• None of the evidence examined specifically included patients who had a primary diagnosis of meniscal tear, loose body, or other mechanical derangement and who also had a concomitant diagnosis of OA of the knee, and the present recommendation does not apply to such patients.
Recommendation 19

Arthroscopic partial meniscectomy or loose body removal is an option in patients with symptomatic OA of the knee who also have primary signs and symptoms of a torn meniscus and/or a loose body.

- Level of Evidence: V
- Grade of Recommendation: C
• **Recommendation 19**

• Currently, arthroscopic partial meniscectomy and/or loose body removal is routinely performed in patients with symptomatic OA of the knee who also have primary signs and symptoms of a torn meniscus and/or a loose body.

• No level I or II evidence is available to suggest that arthroscopic partial meniscectomy and/or loose body removal is or is not appropriate for a patient with a primary diagnosis of a torn meniscus and/or a loose body in whom OA of the knee is identified secondarily.
• **Recommendation 19**

• The expert opinion consensus (level V evidence) of the AAOS work group is that arthroscopic partial meniscectomy or loose body removal is an option for patients with primary signs and symptoms of a torn meniscus and/or loose body.

• Additional studies are warranted to look at the outcomes of arthroscopic surgery in this population.
Case Example: 35 year old female
Conclusion

• Arthroscopy has a VERY LIMITED role in knee osteoarthritis
• Has the potential to accelerate the disease progression and/or patient’s pain
• Evidence and AAOS consensus recommendations do not recommend arthroscopy in the setting of osteoarthritis
• Limited consideration in younger patients with minimal, if any, osteoarthritis and confirmed meniscal pathology
Conclusion

- If any significant osteoarthritis present and all non-operative interventions have failed consider....

OR
Thank You