Aspirin may not be effective in prevention of DVT after meniscus root repair

Alex C DiBartola, MD, MPH; Robert Pettit, MD; Joshua S Everhart, MD, MPH; Robert A Magnussen, MD, MPH; Christopher C Kaeding, MD; David C Flanigan, MD
Disclosures

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Background

- Complications following knee arthroscopy are rare
- Complications can significantly impact recovery
- Symptomatic DVTs after knee arthroscopy occur at incidence of 0.12% to 3.7%
- Asymptomatic DVTs occur up to 11.2%

- Role of anticoagulation after knee arthroscopy is controversial

Background

- Incidence of root tears undergoing arthroscopic repair is as high as 9-21%
- Meniscus root repair may be at a higher risk for DVT than typical arthroscopy population as patients are:
  - Older
  - Higher BMI
  - Subject to more restrictive postoperative rehabilitation protocols

Purpose

1) To determine incidence of symptomatic DVT in patients after meniscal root repair

2) To determine the effectiveness of aspirin versus other anticoagulants in the prevention of DVT in this population
Methods

- All patients who underwent medial and/or lateral meniscus root repair
- Included two sports medicine fellowship-trained surgeons
- Single institution
- June 2015 and July 2018
- Retrospective
- Exclusion criteria: prior history of DVT or clotting disorder
- 58 patients identified for inclusion
Methods

- **90 Day Outcome measures:**
  - **symptomatic DVT** diagnosed by venous duplex ultrasound
  - **wound complications** (defined as requiring a course of antibiotics or operative debridement)
  - **bleeding events** (defined as the decision to stop anticoagulation for excess bleeding, bruising)

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Technique

- Same technique used by both surgeons
- Standard techniques used for medial and lateral root repair
- Fixation performed with SwivelLock (Arthrex, Naples, FL) or Multifix (Smith and Nephew, Andover, MA) suture anchors
- 6 weeks of non-weightbearing and no knee flexion past 90 degrees for two weeks postoperatively
- 6 weeks of DVT prophylaxis at surgeon discretion

Statistical Analysis

- Analysis with standard statistical software (STATA 14.0)
- Fisher’s exact tests were used to compare categorical variables
- Unpaired-t tests were utilized to compare continuous variables
- Statistical significance was defined as p < 0.05
Results: Demographics

- 58 patients, all followed to 90 days
- 40 patients (69.0%) were female
- Mean age 41.8 ± 14.6 years
- Mean BMI 30.9 ± 7.2 kg/m²
- 39 (67.2%) medial repairs
- 19 (32.8%) lateral repairs
- 22 patients (37.9%) underwent concomitant ACLR
- 4 patients (6.9%) were current smokers
- 6 patients (10.3%) were taking oral contraceptives
Results: Intervention

- 16 (27.6%) received aspirin (325 mg daily)
- 42 patients (72.4%) received either
  - lovenox (40 mg daily, 7 patients)
  - apixiban (10 mg BID, 35 patients)
Results: Demographic Differences

- No statistical difference between patients who received aspirin and other anticoagulation related to:
  - sex, BMI, laterality, smoking status, or concurrent ligamentous surgery other than age
- Aspirin group was significantly older (48.6 ± 13.1 years) than the other group (39.2 ± 14.5 years), (p = 0.03)
Results: Outcomes

- 3 symptomatic DVTs (2 medial root repair, 1 lateral root repair) in cohort (5.2%)
- All DVTs occurred in aspirin group
- Incidence of DVT in aspirin group (18.8%) was higher than other anticoagulant group (0%), (p = 0.018)
- 1 clinically significant bleeding event (1.7%) in other anticoagulation group (rectal bleeding)
  - Anticoagulation stopped without further complication
Results: Outcomes

- 4 patients (6.9%) had a wound complication
  - 3 required oral antibiotics for superficial wound infections
  - 1 required return to OR for surgical debridement at 6 weeks post-op
- no significant differences noted in bleeding or wound complication risk between two groups

https://helloclue.com/articles/
Limitations

- Study may be underpowered to detect a difference in adverse event rates between aspirin and other anticoagulant group
- Retrospective study
- Prophylaxis received by each patient was based on each surgeon’s protocol and may be subject to bias
- Larger studies with randomization are needed to evaluate the effectiveness of different agents to prevent DVT in patients who undergo meniscus root repair
Conclusion

- Role for chemoprophylaxis after arthroscopic knee surgery is controversial
- All symptomatic DVTs in our patient cohort occurred in the aspirin group, with an incidence of 18.8%
- No DVTs in patients who received other anticoagulation (Lovenox or Apixiban)
Conclusion

- Aspirin alone may not be adequate for the prevention of DVT in patients after meniscus root repair
- No significant difference in excessive bleeding or wound complications between the aspirin and other anticoagulation group
Thank You
David.Flannigan@osumc.edu