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No Long-Term Benefit of Arthroscopic Surgery for Meniscal Tears in Middle-Aged Persons

Clinical Question

Does arthroscopic surgery improve outcomes for patients with a degenerative meniscal tear and little or no osteoarthritis?

Bottom Line

Arthroscopic repair of degenerative meniscal tears in middle-aged adults does not significantly improve long-term pain or function. Patients should do physical therapy and try to avoid surgery if possible. (Level of Evidence = 1a-)

Synopsis

The authors of this systematic review identified randomized controlled trials that compared arthroscopic meniscal debridement with conservative management for patients with degenerative (nontraumatic) meniscal tears and little or no osteoarthritis. They found a total of seven studies (including five published in 2013) with a total of 805 patients, mostly from Europe. Overall study quality was not impressive. Conservative management generally included a standardized exercise program, although one study used an intra-articular steroid injection and one used sham surgery. Studies employed a variety of outcome measures, so the authors combined them using standardized mean differences for the effect sizes. The mean age of the patients was 53 to 59 years in the seven included studies. Risk of bias was high or

uncertain for six of the seven studies, largely because of failure to mask and uncertainty regarding allocation concealment and randomization. In the short term (less than six months) there was a statistically significant improvement in functional outcomes with surgery (standardized mean difference = 0.25; 95% confidence interval, 0.02 to 0.48). However, this improvement was not seen for longer-term outcomes (six months to two years) and did not exceed the threshold for a minimally important difference. Surgery did not improve pain in the short term or in the long term.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Self-funded or unfunded

Reference: Khan M, Evaniew N, Bedi A, Ayeni OR, Bhandari M. Arthroscopic surgery for degenerative tears of the meniscus: a systematic review and meta-analysis. *CMAJ*. 2014;186(14):1057-1064.

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Back-Up Culture Not Needed for Negative Rapid Strep Test Results

Clinical Question

Do negative rapid strep test results need to be confirmed by culture?

Bottom Line

Although rheumatic heart disease due to group A streptococcal infection has all but disappeared in wealthy countries (*Lancet*. 2012;379(9819):953-964), some countries still go to great lengths to test for streptococcal throat infections, including the United States. As a result, we spend more than \$8 million per each additional case of rheumatic heart disease prevented (*Prev Med*. 2002;35(3):250-257). This meta-analysis found that the rapid antigen tests widely in use are highly effective in identifying and excluding strep. The sensitivity of these tests is 86% and specificity is 96%, overall and in children. The authors of this analysis argue that this sensitivity is high enough—and the likelihood of rheumatic heart disease is low enough—to drop the long-held practice of confirming negative antigen test results with culture. Maybe one day we will retire strep testing; until then, maybe we can get rid of cultures. (Level of Evidence = 1a) ▶

Synopsis

The investigators searched Medline and Embase to identify 48 studies that compared rapid antigen tests for group A streptococcus with throat culture, the diagnostic standard. They limited their search to English-language studies, but searched bibliographies of identified studies and previous reviews. Two investigators assessed all studies for quality. Studies were performed throughout the world and used six different testing methods (latex agglutination, enzyme-linked immunosorbent assay, and so forth). Overall, the sensitivity of all rapid antigen tests was 86% (95% confidence interval, 83% to 88%) and specificity was 96% (95% confidence interval, 94% to 97%). Results were similar when limited to studies performed in children. Molecular techniques (DNA probes, polymerase chain reaction methods) were slightly better, although these tests have a turnaround time of one to three hours.

Study design: Meta-analysis (other)

Funding source: Self-funded or unfunded

Setting: Various (meta-analysis)

Reference: Lean WL, Ardup S, Danchin M, Steer AC. Rapid diagnostic tests for group A streptococcal pharyngitis: a meta-analysis. *Pediatrics*. 2014;134(4):771-781.

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Increased GI Bleeding After Switch from Warfarin to Dabigatran

Clinical Question

Does serious bleeding increase when patients are switched from warfarin (Coumadin) to dabigatran (Pradaxa)?

Bottom Line

The risk of bleeding increases (though remains small) when patients with atrial fibrillation are switched from warfarin to dabigatran to prevent stroke or transient ischemic attack. This study, conducted almost exclusively in male veterans, found an increase in gastrointestinal (GI) bleeding, but not in intracranial bleeds. More data from additional real-life studies such as this one should give us more information about which patients are good candidates for warfarin or newer anticoagulants. (Level of Evidence = 2b)

Synopsis

The authors used the U.S. Department of Veterans Affairs database to identify patients with nonvalvular atrial fibrillation who had taken warfarin for at least

six months. Of these 85,344 patients, 1,394 had been switched to dabigatran. As one might expect, most patients (> 98%) were male and older. The mean age was significantly higher in the group of patients remaining on warfarin (74.4 vs. 69.7 years; $P < .001$). Extrapolating from the database, the authors compared users of warfarin or dabigatran each week for 70 weeks. This approach, although not as rigorous as a randomized trial, gives a picture of the real-world experience for a lot of patients.

Overall, any documented bleeding episodes were higher in patients who had been switched to dabigatran, as documented by patient visits: 0.146 episodes per person per year vs. 0.106 episodes per year (unadjusted 36% higher, $P < .001$; adjusted 27% higher, $P = .02$). GI hemorrhage made up the majority of bleeding events and was more likely in patients taking dabigatran (unadjusted 71% more likely, $P < .001$; adjusted 54% more likely, $P < .001$). Intracranial bleeding rates were not higher with dabigatran. Interestingly, the number of bleeding episodes documented in inpatients was not different between the two drugs, which might signify that the bleeding episodes were more minor in nature.

There are several related studies. In one of the early randomized studies, GI hemorrhage was higher with dabigatran, 150 mg, than with warfarin, although overall major bleeding rates were no different or lower with dabigatran (*N Engl J Med*. 2010;363(19):1875-1876). In a study of Danish patients started on dabigatran or switched to dabigatran from warfarin, bleeding rates were the same or decreased. GI bleeding, however, was increased nonsignificantly in patients in the dabigatran group who had been taking warfarin for the previous two years and in warfarin-naïve patients receiving 150 mg of dabigatran (*Am J Med*. 2014;127(7):650-656.e5).

Study design: Cohort (retrospective)

Funding source: Self-funded or unfunded

Setting: Outpatient (primary care)

Reference: Vaughan Sarrazin MS, Jones M, Mazur A, Chrischilles E, Cram P. Bleeding rates in Veterans Affairs patients with atrial fibrillation who switch from warfarin to dabigatran. *Am J Med*. 2014;127(12):1179-1185.

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