POEMs

Patient-Oriented Evidence That Matters

Epidural Corticosteroid Injections Provide Minimal, If Any, Benefit in Low Back Pain with Sciatica

Clinical Question

Do epidural corticosteroid injections safely reduce pain and disability for patients with sciatica?

Bottom Line

Epidural corticosteroid injections provide a small and probably clinically insignificant reduction in leg and back pain in the immediate term (less than two weeks), and a small to moderate reduction in disability in the short and intermediate terms. Adverse events and safety were not well reported. (Level of Evidence = 1a–)

Synopsis

The review from the Cochrane Collaboration is an update to a previous systematic review of epidural corticosteroid injections for low back pain associated with sciatica. Inclusion in a trial could be based on the clinical evaluation, and patients with spinal stenosis or previous surgery were excluded. The reviewers identified 25 studies with 2,470 participants that compared corticosteroid with placebo (a local anesthetic that was used to mask injection vs. no injection). The quality assessment found that failure to mask study personnel or outcome assessors—and in some cases, patients—was common. Leg pain decreased significantly in the immediate term of less than two weeks (15 points on a 100-point scale), but much less in the short term, from two weeks to three months (five points). There was no benefit in the intermediate term (three months to 12 months) or long term (longer than 12 months). A 15-point difference on a 100-point scale is probably clinically significant, but a five-point difference is not. Back pain improved only in the immediate term (11 points on a 100-point scale, which is of borderline clinical significance); there was no significant reduction in back pain during any follow-up period beyond two weeks. It is important to note that only a single study with 158 patients reported results for the immediate term period (less than two weeks). Disability was decreased in the short and medium term (two weeks to 12 months), with a small to moderate effect size, as measured by the standardized mean difference (–0.20 to –0.27). Adverse events included headache and increased back pain in some participants, but they were not well or consistently reported, and safety was not well reported.

Study design: Meta-analysis (randomized controlled trials)

Funding source: Government

Setting: Outpatient (any)

Reference: *Oliveira CB, Maher CG, Ferreira ML, et al. Epidural corticosteroid injections for sciatica: an abridged Cochrane systematic review and meta-analysis.* Spine (Phila Pa 1976). *2020;45(21): E1405-E1415.*

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The Risk of Progression from Prediabetes to Diabetes in Older Adults Is Low

Clinical Question

What is the likelihood that older adults with prediabetes will develop diabetes mellitus over an average of 6.5 years?

Bottom Line

Older patients generally will not progress to diabetes; they will either, over an average of 6.5 years, stay at the prediabetic levels or revert to normal levels. If a patient makes it to their mid-70s

without a diagnosis of diabetes, it is unlikely to occur. (Level of Evidence = 1b–)

Synopsis

Prediabetes has a few definitions. This study evaluated 3,412 community-dwelling participants, including 2,482 patients who had an A1C level of 5.7% to 6.4% (n = 1,490) or a fasting glucose level of 100 mg per dL (5.55 mmol per L) to 125 mg per dL (6.94 mmol per L; n = 1,996), or both, in a community cohort of adults with a mean age of 75.5 years. Over 6.5 years of follow-up with 27% attrition, 9% of patients with elevated A1C levels progressed to diabetes and 13% regressed to normoglycemia. Of those with elevated fasting glucose levels, 8% developed diabetes and 44% returned to normoglycemia. These rates compare with a 3% development of diabetes in patients with normoglycemia at the start.

Study design: Randomized controlled trial (single-blinded)

Funding source: Industry and government

Setting: Emergency department

Reference: *Rooney MR, Rawlings AM, Pankow JS, et al. Risk of progression to diabetes among older adults with prediabetes [published correction appears in* JAMA Intern Med. *2021;181(4):570].* JAMA Intern Med. *2021;181(4):511-519.*

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In Older Adults, Aspirin Increases the Risk of Metastatic or Stage 4 Cancers and Cancer Mortality

Clinical Question

Does aspirin increase the risk of cancer in older adults?

Bottom Line

In this large trial, older adults who received aspirin had higher rates of metastatic cancer, stage 4 cancer, and cancer mortality than those who received placebo. (Level of Evidence = 1b)

Synopsis

The Aspirin in Reducing Events in the Elderly trial recruited 19,114 older adults living in Australia and the United States who were 70 years or older (or 65 years or older among U.S. African-American and Hispanic adults) and who were free of known cardiovascular disease, dementia, and physical disability. The researchers randomized the participants (allocation was concealed) to receive a daily dosage of enteric-coated aspirin (100 mg; n = 9,525) or placebo (n = 9,589). The study was terminated after just three years because of an unexpected increase in all-cause mortality in the aspirin-treated group. The authors provided a detailed analysis of the cancer-related outcomes. The researchers reviewed clinical records, including histopathology reports, from treating clinicians and health care institutions when a new or recurrent cancer was reported during the trial follow-up, or after a participant had died. At baseline, the distribution of prior cancer (19%) and known cancer risk factors between the two groups was comparable. The rate of incidental cancer was similar for aspirin- and placebo-treated participants (23.9 vs. 23.0 per 1,000 person-years). Cancer mortality was higher among those treated with aspirin (6.4 vs. 4.8 per 1,000 person-years; number needed to harm [NNH] = 629). The higher mortality is partially explained by higher rates of metastatic cancer (6.1 vs. 5.1 per 1,000 person-years; NNH = 1,006). There was no difference in the rate of hematologic or lymphatic malignancies (2.2 per 1,000 person-years for both groups). The rate of stage 4 cancer was higher in those treated with aspirin (6.5 vs. 5.3 per 1,000-person years; NNH = 839).

Study design: Randomized controlled trial (double-blinded)

Funding source: Government

Allocation: Concealed

Setting: Population-based

Reference: *McNeil JJ, Gibbs P, Orchard SG, et al.; ASPREE Investigator Group. Effect of aspirin on cancer incidence and mortality in older adults.* J Natl Cancer Inst. *2021;113(3):258-265.*

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Take-and-Hold Prescriptions for Children with Respiratory Tract Infections Decrease Antibiotic Use with Similar Outcomes

Clinical Question

What is the effect of a delayed-prescription approach for children with respiratory tract infection?

Bottom Line

A strategy of providing education about the natural history of respiratory symptoms in children combined with giving a take-and-hold prescription (to be filled only if symptoms persisted) resulted in one in four of those children eventually receiving an antibiotic. However, it increased the number of children who used other medications to control symptoms, which indicates the parents' need to do something. Symptom severity and time to resolution, complications, and follow-up visits were similar whether children received immediate, delayed, or no antibiotic treatment. Immediate treatment resulted in more gastrointestinal symptoms. Similar results have been shown in adults. (Level of Evidence = 1b)

Synopsis

The investigators enrolled 436 children from 39 primary care centers. The children were between two and 14 years of age (most were 10 years or younger) and had pharyngitis, rhinosinusitis, acute bronchitis, or acute otitis media for which the treating pediatrician had reasonable doubts about the need to prescribe an antibiotic. Pediatricians who had access to rapid streptococcal testing did not include children with pharyngitis in this study. The children were randomly assigned using concealed allocation to receive no antibiotic treatment, a prescription for an antibiotic to be started immediately, or a prescription to be started only if the patient had a fever or felt much worse after 24 hours, or if the child did not start to feel better after four, seven, 15, or 20 days from symptom onset for acute otitis media, pharyngitis, rhinosinusitis, or acute bronchitis, respectively. All parents were told that it was normal for a child to feel slightly worse in the first days after a visit and the natural history of the respective condition was described (e.g., the cough of acute bronchitis could last for 20 days). Almost all (96%) of the children in the immediate antibiotic group received treatment, whereas only 25% of the delayed group and 12% in the no antibiotic group received an antibiotic. Symptoms took an average of eight days to disappear, regardless of treatment group. The duration of days with severe symptoms was similar in both groups. Nonantibiotic symptom treatment was more common in the delayed or no antibiotic group compared with the immediate treatment group ($P < .001$). Complications and unscheduled visits were similar across the groups. Gastrointestinal symptoms were higher with immediate treatment. Satisfaction was similar among all three groups.

Study design: Randomized controlled trial (nonblinded)

Funding source: Government

Allocation: Concealed

Setting: Outpatient (primary care)

Reference: *Mas-Dalmau G, Villanueva López C, Gorrotxategi Gorrotxategi P, et al.; DAP PEDIATRICS GROUP. Delayed antibiotic prescription for children with respiratory infections: a randomized trial.* Pediatrics. *2021;147(3):e20201323.*

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