

POEMs

Patient-Oriented Evidence That Matters

Minimal Effect of ERT on Sexual Function in Menopausal Women

Clinical Question

Does estrogen replacement therapy (ERT) affect sexual function in menopausal women?

Bottom Line

Transdermal, but not oral, estrogen produced a small improvement in sexual function scores in menopausal women. The increases were very small and may not be noticeable by most women. Although the women in this study had low baseline sexual function scores, they were not necessarily distressed by the low scores, so this study did not evaluate women with sexual dysfunction. (Level of Evidence = 1b)

Synopsis

This study is part of a larger study investigating the role of estrogen replacement on atherosclerosis progression. Women less than three years from their last menstrual period (average age = 52.7 years) were recruited and randomized (using concealed allocation) to receive oral conjugated equine estrogens (0.45 mg per day), transdermal estradiol (50 mcg per day), or placebo for four years, with micronized progesterone for 12 days per month. The study used the Female Sexual Function Index (FSFI) to track sexual function, although the authors did not assess distress associated with low sexual function, which is needed for a diagnosis of sexual dysfunction.

FSFI scores, on average, were low at the start of treatment (18.4 to 19.1 out of a possible 36), and 74% of women had a score that indicates low sexual function (less than 26.55). Over the course of the study, transdermal, but not oral, estrogen was associated with a small but statistically significant increase in FSFI scores (average efficacy = 2.6; 95% confidence interval, 1.11 to 4.10; $P = .002$), with significant improvements on the lubrication and pain subscales of the inventory. However, 67% of women treated with transdermal estrogen still had low sexual function.

Study design: Randomized controlled trial (double-blinded)

Funding source: Government

Allocation: Concealed

Setting: Outpatient (any)

Reference: Taylor HS, Tal A, Pal L, et al. Effects of oral vs transdermal estrogen therapy on sexual function in early postmenopause: ancillary study of the Kronos Early Estrogen Prevention Study (KEEPS). *JAMA Intern Med.* 2017;177(10):1471-1479.

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Ibuprofen and Morphine Provide Similar Post-op Pain Relief in Kids; Ibuprofen Has Fewer Harms

Clinical Question

Which is the better oral pain reliever for children with postoperative pain: ibuprofen or morphine?

Bottom Line

This carefully designed and adequately powered study found no difference in pain reduction between ibuprofen and oral morphine in children with postoperative pain. Adverse effects, however, were much more likely with morphine. (Level of Evidence = 1b)

Synopsis

As concern increases about overly broad uses of opiates, it is good to see studies that evaluate their effectiveness in different populations. This study identified 154 children, 5 to 17 years of age, who underwent an outpatient orthopedic ►

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surgical procedure (most commonly hardware removal, open reduction and internal fixation of a fracture, or arthroscopy). The patients were randomized to receive up to eight doses, given six hours apart, of 0.5 mg per kg of morphine or 10 mg per kg of ibuprofen. Pain was assessed by the patient immediately before and 30 minutes after each dose of medication using the well-validated 10-point Faces scale; a difference of at least 1 point on this scale is considered to be clinically meaningful. Medication was given using a double dummy design, so each patient simultaneously got one active medication and one placebo. Groups were similar at baseline, and analysis was by intention to treat. Both medications reduced pain by approximately 1 point at each dose, with no difference between groups in efficacy. There was a significantly greater risk of adverse events in the morphine group, primarily nausea, vomiting, drowsiness, and dizziness (number needed to treat to harm for any adverse event = 3).

Study design: Randomized controlled trial (double-blinded)

Funding source: Foundation

Allocation: Concealed

Setting: Inpatient (any location) with outpatient follow-up

Reference: Poonai N, Dattoo N, Ali S, et al. Oral morphine versus ibuprofen administered at home for postoperative orthopedic pain in children: a randomized controlled trial. *CMAJ*. 2017;189(40):E1252- E1258.

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High-Sensitivity Troponin I of Less Than 5 ng per L Has Negative Predictive Value of 99.9% for Cardiac Death at One Year

Clinical Question

Is a cardiac troponin I concentration of less than 5 ng per L (5 mcg per L) at presentation useful in identifying adults with potential acute coronary syndrome at low risk of myocardial infarction or cardiac death?

Bottom Line

A cardiac troponin I concentration of less than 5 ng per L in adults who present with potential

acute coronary syndrome has a negative predictive value (NPV) of at least 99.9% for cardiac death at 30 days and at one year. (Level of Evidence = 1a-)

Synopsis

These investigators thoroughly searched Medline, Embase, the Cochrane Register, and the Web of Science without language restrictions for prospective studies that evaluated the accuracy of measured high-sensitivity cardiac troponin I in identifying adults with suspected acute coronary syndrome who are at risk of myocardial infarction or cardiac death. Two independent investigators assessed individual studies for inclusion criteria and methodologic quality using a standard risk-of-bias scoring tool. Disagreements were resolved by consensus agreement with a third reviewer. Patients with ST-segment elevation or myocardial infarction, and those who presented in cardiac arrest, were excluded. A total of 36 articles (N = 22,457 adults with suspected acute coronary syndrome) reporting observations from 19 individual cohorts met the inclusion criteria. The assessed risk of bias was low to moderate in eight of the 19 cohorts and high in the remaining 11 cohorts.

High-sensitivity cardiac troponin I concentrations were less than 5 ng per L at presentation in 11,012 patients (49%), with an NPV of 99.5% (95% confidence interval, 99.3% to 99.6%) for missed myocardial infarctions at 30 days, with no cardiac deaths at 30 days (NPV = 100%). The NPV for cardiac death at one year was 99.9% (95% confidence interval, 99.7% to 99.9%). In subgroup analysis, the NPV was lower in patients with myocardial ischemia on the initial electrocardiogram, those who presented within two hours of symptom onset, those 65 years or older, and those with a history of ischemic heart disease.

Study design: Systematic review

Funding source: Foundation

Setting: Various (meta-analysis)

Reference: Chapman AR, Lee KK, McAllister DA, et al. Association of high-sensitivity cardiac troponin I concentration with cardiac outcomes in patients with suspected acute coronary syndrome. *JAMA*. 2017; 318(19):1913-1924.

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