Cochrane for Clinicians

Putting Evidence into Practice

Single-Dose Oral NSAIDs and Acetaminophen for Perineal Pain in the Early Postpartum Period

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Clinical Question

Is a single dose of an oral nonsteroidal anti-inflammatory drug (NSAID) or acetaminophen effective for acute perineal pain in the early postpartum period?

Evidence-Based Answer

In patients with acute perineal pain at four hours' postpartum, a single dose of an oral NSAID (number needed to treat [NNT] = 4; 95% CI, 3 to 6)[1] and a single dose of oral acetaminophen (NNT = 3; 95% CI, 2 to 6)[2] are each effective at achieving adequate pain relief. Both NSAIDs (NNT = 5; 95% CI, 4 to 8) and acetaminophen (NNT = 5; 95% CI, 4 to 7) are effective at reducing the need for further analgesia. It is unclear whether an NSAID or acetaminophen is superior. It should be noted that these data are based on studies in which a majority of patients underwent episiotomy.[1,2] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Perineal pain is common following vaginal delivery. Achieving adequate pain relief is important to improve patients' well-being, mobility, and ability to care for their child. NSAIDs and acetaminophen are commonly used postpartum for analgesia. The authors of these two Cochrane reviews sought to demonstrate whether a single dose of an NSAID or acetaminophen can significantly reduce early postpartum perineal pain.[1,2]

The first Cochrane review evaluated the effectiveness of NSAIDs from 35 randomized controlled trials (RCTs; N = 5,136) that examined 16 different NSAIDs.[1] Sixteen of the 35 studies took place in the United States and eight in other high-income countries (Canada, United Kingdom, Belgium, Spain, France, and Italy). Eleven studies were done in low- and middle-income countries—six in Venezuela, and five in India, Malaysia, Thailand, and Iran. Participants had perineal trauma requiring repair following vaginal delivery. Nearly all of the studies (34 of 35) evaluated postepisiotomy pain, and one study evaluated patients with first- or second-degree perineal tears. Episiotomies are not routinely recommended, which is a major limitation of this review. The studies assessed a single dose of medication vs. a single dose of placebo, acetaminophen, or another NSAID. Outcomes included achieving adequate pain relief and the need for additional analgesia. Adequate pain relief was defined as patients subjectively reporting "good" or "excellent" pain relief or pain relief of 50% or greater four to six hours following treatment. The review did not specify parity or gravidity.

Patients who received a single dose of an NSAID achieved adequate pain relief at four hours (NNT = 4; 95% CI, 3 to 6) and at six hours (NNT = 3; 95% CI, 3 to 5) compared with placebo. Patients who received an NSAID were less likely to need additional analgesia at four hours (NNT = 5; 95% CI, 4 to 8) and at six hours (NNT = 3; 95% CI, 3 to 4) compared with placebo. Limitations included risk of sampling bias, undisclosed details regarding randomization and blinding, and imprecision resulting in wide CIs, largely due to small sample sizes and few events. The data on adequate pain relief were asymmetrical, especially compared with the data evaluating the need for additional analgesia. This suggests that additional smaller studies of NSAIDs vs. placebo have likely not been published, and thus there may be an overestimation of the effect of NSAIDs.

A Cochrane meta-analysis demonstrated that NSAIDs are superior to acetaminophen at helping to achieve adequate pain relief at four hours

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SUMMARY TABLE

Outcomes of Oral NSAIDs and Acetaminophen on Pain Relief for Acute Perineal Pain

Outcomes	Assumed risk with placebo or acetaminophen	Corresponding risk with medication (95% CI)	NNT* (95% CI)	Participants	Quality of evidence
Adequate pain relief (4 hours)	Placebo 284 per 1,000	NSAID 543 per 1,000 (466 to 634 per 1,000)	4 (3 to 6)	1,573	Low
	Acetaminophen 205 per 1,000	NSAID 315 per 1,000 (219 to 454 per 1,000)	9 (4 to 71)	342	Low
	Placebo 27%	Acetaminophen 58% (43% to 78%)	3 (2 to 6)	1,279	Low
Adequate pain relief (6 hours)	Placebo 321 per 1,000	NSAID 615 per 1,000 (542 to 696 per 1,000)	3 (3 to 5)	2,079	Very low
	Acetaminophen 200 per 1,000	NSAID 364 per 1,000 (122 to 1,000 per 1,000)	NA	99	Very low
Need for additional analgesia (4 hours)	Placebo 305 per 1,000	NSAID 119 per 1,000 (79 to 177 per 1,000)	5 (4 to 8)	486	Moderate
	Acetaminophen 405 per 1,000	NSAID 223 per 1,000 (109 to 458 per 1,000)	NA	73	Very low
	Placebo 30.5%	Acetaminophen 10.4% (6.4% to 16.8%)	5 (4 to 7)	1,132	Low
Need for additional analgesia (6 hours)	Placebo 438 per 1,000	NSAID 140 per 1,000 (114 to 175 per 1,000)	3 (3 to 4)	1,012	Very low
	Acetaminophen 571 per 1,000	NSAID 160 per 1,000 (69 to 383 per 1,000)	2 (2 to 5)	59	Low

NA = not applicable; NNT = number needed to treat; NSAID = nonsteroidal anti-inflammatory drug.

*—The risk in the intervention group (and its 95% CI) is based on the assumed risk in the comparison group and the relative effect of the intervention (and its 95% CI).

Information from references 1 and 2.

(NNT = 9; 95% CI, 4 to 71), but there was no statistically significant difference in this outcome at six hours. The need for additional analgesia at six hours was reduced with NSAIDs compared with acetaminophen (NNT = 2; 95% CI, 2 to 5), but not at four hours. Thus, there is no clear difference in effectiveness of NSAIDs compared with acetaminophen. Further comparisons between different NSAIDs or different doses of an NSAID did not demonstrate any statistical difference in outcomes. Assessment of maternal adverse drug effects was uncertain, and neonatal adverse drug effects were not reported. Quality of evidence in the individual studies was low to very low because of unclear risk of selection bias, few participants, and wide CIs that suggest possible benefit and possible harm.

The second Cochrane review included 10 RCTs (N = 1,301) assessing a single dose of acetaminophen vs. placebo in providing perineal pain relief.[2] The settings of the trials were hospitals in mostly high-income countries—seven in the United States, one in France, one in Canada, and one in Venezuela (the only low- to middle-income country). All of the studies were small; the largest included only 250 patients. The studies involved only patients with perineal pain associated with trauma, and none of the participants had an intact perineum. The studies assessed 500- to 1,000-mg doses of acetaminophen. More patients experienced adequate pain relief with acetaminophen at four hours after birth (NNT = 3; 95% CI, 2 to 6) compared with placebo, and fewer patients needed additional analgesia with acetaminophen

compared with placebo (NNT = 5; 95% CI, 4 to 7). Only one of the included studies reported maternal adverse drug effects; neonatal adverse drug effects were not assessed.

The American College of Obstetricians and Gynecologists guidelines support the stepwise approach described in these reviews, beginning with NSAIDs and acetaminophen, and reserving opioids for breakthrough pain.[3] Although additional study is needed on the maternal and neonatal adverse effects of NSAIDs and acetaminophen, clinicians may consider NSAIDs or acetaminophen as first-line therapy to address postpartum perineal pain.

The practice recommendations in this activity are available at http://www.cochrane.org/CD011352 and http://www.cochrane.org/CD008407.

Editor's Note: The NNTs and their corresponding CIs reported in this Cochrane for Clinicians were calculated by the authors based on raw data provided in the original Cochrane reviews.

The opinions and assertions contained herein are the private views of the authors and are not to be construed as official or as reflecting the views of the U.S. Army Medical Department or the U.S. Army at large.

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Trigger Finger: Safety and Effectiveness of NSAID vs. Steroid Injection Therapy

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Clinical Question

Are nonsteroidal anti-inflammatory drug (NSAID) injections as safe and effective as steroid injections for the treatment of trigger finger?

Evidence-Based Answer

In patients with trigger finger, there is no significant difference in outcomes at 12 to 24 weeks—including resolution of symptoms, recurrence, total active motion, residual pain, patient satisfaction, or adverse events—when comparing treatment with NSAID injections vs. corticosteroid injections.[1] (Strength of Recommendation: B, based on inconsistent or limited-quality patient-oriented evidence.)

Practice Pointers

Trigger finger occurs when the motion of the flexor tendon of a digit through the first annular pulley becomes abnormal due to inflammation or swelling. With an estimated general prevalence of 2.6%, trigger finger is more common in women and people in their 40s and 50s. Individuals with arthritis or diabetes mellitus appear to be at increased risk. Conservative treatment options include physical therapy, topical or oral NSAIDs, splinting, and activity modification. Symptoms may also resolve without treatment.[2] However, watchful waiting and other conservative measures may not be acceptable for some patients. Invasive treatment with injection or surgery is often reserved for cases that are more severe or do not respond to conservative measures.

Two prior Cochrane reviews focused on this subject.[3,4] The first demonstrated that corticosteroid injection was superior to lidocaine injection at four weeks' follow-up[3]; the second review showed that surgery may have superior long-term outcomes to corticosteroid injection but was associated with more short-term pain.[4] Both reviews indicated that their conclusions were based on limited, low-quality data.

The authors of this most recent Cochrane review looked for randomized controlled trials comparing topical, oral, or injected NSAIDs with placebo, corticosteroids, or alternate NSAID treatments (i.e., a different drug or different route of administration).[1] Only two studies with a total of 231 patients met inclusion criteria, and each used an injection of an NSAID (12.5 mg of diclofenac in one study [n = 110], 15 mg of ketorolac in the second [n = 121]) compared with injection of triamcinolone. Different doses were used in the two studies. One study permitted use of lidocaine in both arms, whereas the other study did not permit lidocaine use. Both studies used the Quinnell grading system for assessment, a five-point ordinal scale from 0 to 4,

in which 0 represents normal joint movement; 1, uneven movement; 2, an actively correctable tendon obstruction; 3, passively correctable; and 4, a fixed deformity. Reassessments were performed at three weeks and 12 weeks after injection in one study and at three, six, 12, and 24 weeks in the other. The first author for one study was also the first author of this Cochrane review; however, assessment of the study was performed by other analysts.

At the end of the observation period, there were no statistical differences between the treatments. Both studies revealed a pattern of greater initial improvement after corticosteroid injection with a later disappearance of differences at follow-up. Adverse events following injection were rare and did not occur more often in either group.

Another study not included in this analysis used various doses of triamcinolone (5, 10, or 20 mg) and demonstrated greater short-term (one week to six months) benefit when higher doses of corticosteroids were used, but this difference was no longer present after nine months.[5]

The two trials in this analysis were small, and the data were inconclusive, leaving many unresolved questions, including the effect of injection technique, dose, or volume of substance injected, as well as whether combining these treatments would be effective.

Consensus guidelines suggest that splinting, corticosteroid injection, and surgery are all indicated for the treatment of trigger finger based on timing, symptom severity, and previous therapy.[6] It remains unclear whether there are any differences between observation and injection in long-term outcomes. Although there is some evidence that NSAID injection may be an option for patients with trigger finger, shared decision-making regarding treatment options is warranted.

The practice recommendations in this activity are available at http://www.cochrane.org/CD012789.

The opinions and assertions contained herein are the private views of the authors and are not to be construed as official or reflecting the views of the Department of Defense or the Uniformed Services University of the Health Sciences.

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