

CAT Heterotrophic ossification – NSAIDs reduces the risk

Clinical Bottom Line(s):

1. NSAIDs, apart from low dose aspirin, reduces risk of HO after hip arthroplasty
2. May be able to prevent 15-20 cases per 100 total hip replacements

Citations(s): Non-steroidal anti-inflammatory drugs for preventing heterotrophic bone formation after hip arthroplasty. Cochrane Bone, Joint, and Muscle Trauma Group 1998, Issue 3 (update 2005).

Three/four part clinical question.

In patients that have traumatic bone injuries, including surgery, does NSAIDS prevent heterotrophic ossification

The study: Meta-analysis: Random or quasi-random allocation to perioperative NSAID or control that recorded post-operative radiographically determined HBF.

The study patients:

16 randomized and 2 quasi-randomized trials involving total of 4763 patients that underwent hip arthroplasty

Control Group(s):

Studies that included anything other than NSAIDs. (8 antibiotic use, 4 heparin thromboprophylaxis, 3 dextran).

Experimental Group:

Active agent: 8 Types of NSAIDs (1 included study compared 2 types of NSAIDs and 3 studies included random assignment between different doses of the active agent).

The evidence:

| Outcome | Time to Outcome | DV CER or Effect Size Index | DV EER Effect Size Index | % Reduction | ARR (option) | NNT (option) |
|------------------|---------------------------|--------------------------------------|-----------------------------------|------------------|-----------------|-----------------|
| Prevention of HO | 3 - 6 months post surgery | | | 59% CI 54–64% | | |

Comments:

1. Low dose NSAIDs (ASA) had only 2% reduction of HO (not included in meta-analysis) compared to 59% reduction with med-high doses.
2. One-third increased risk of GI side effects – low statistical power to detect difference between studies.
3. Few fatal/serious non-fatal events were recorded, but effect of NSAIDs was not determined by this overview.
- 4.

Appraiser by:
Candi C. Darst

Date Appraised:
19 Aug 2005

Kill or update by: