

## **Aseptic Loosening of Noncemented Total Hip Arthroplasty after Treated with NSAIDs**

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Nonsteroid antiinflammatory drugs (NSAIDs) are frequently prescribed in the early postoperative period after total hip arthroplasty (THA) for prevention of heterotopic ossification (HO) or for pain treatment. Animal studies have shown NSAIDs to reduce bony ingrowth in noncemented implants. However, no clinical studies have shown that NSAIDs increases the risk of aseptic loosening of THA.

Since 1995 Danish Hip Arthroplasty Register (DHR) has recorded patients undergoing THA including any treatment with NSAID in the early postoperative period in prevention of HO. During 1995 to 2003 total 43.166 THA's have been reported to DHR, 23.337 cemented, 7.765 noncemented and 12.064 hybrids. Total 7.185 cases have been treated with NSAIDs for 1 week or more in the early postoperative period.

Multivariate Cox Regressions Analysis was used to estimate the relative risk (RR) for aseptic loosening if treated with NSAIDs and adjusted for possible confounding factors including sex, age, side of operation, indication for surgery and type of fixation of the implants.

In patients with noncemented THA, NSAIDs were associated with a significantly increased risk for revision due to aseptic loosening (RR=3.09; 95% CL: 1.36-7.01). In contrast, in patients with cemented THA, NSAIDs were associated with a reduced risk for revision due to aseptic loosening (RR=0.76; 95% CL: 0.55-1.04).

This study is the first to document that NSAIDs increases the risk for revision of noncemented THA due to aseptic loosening. Surprisingly, NSAIDs appeared to "protect" cemented THA from aseptic loosening. Based on our data we recommend that NSAIDs are contraindicated in the early period after noncemented THA.