Cholesterol drugs may help improve hip replacement outcomes

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drugs commonly prescribed to help lower cholesterol levels - may play an important role in decreasing complications among patients undergoing total hip replacement (THR), according to a study published in the May 2010 issue of the *Journal of Bone and Joint Surgery* (JBJS).

"We found that use of statins substantially reduced the risk of revision after hip replacement surgery, indicating that the biological effects of statins may play a role in the sustainability of hip implants," said Theis Thillemann, MD, fellow in the department of orthopaedic surgery, Aarhus University Hospital, Denmark.

Using records from the Danish Hip Arthroplasty Registry, a national database of patients who had hip replacement, Dr. Thillemann and his colleagues evaluated the effect of statin use on the need for revision surgery and found that patients who were taking statins for cholesterol control postoperatively had a significantly lower risk of revision during the 10-year period following THR. In addition, the researchers noted the risk of revision decreased with longer use of the statins.

"In hip replacement surgery, nearly 80 percent of patients are older than 60 years," he noted. "As a result, many of these patients have chronic medical diseases for which they are taking medicine. Although it's recognized that many of these drugs affect bone metabolism, currently there is limited information on the implications of other medical treatments on implant survival after THR."

"The survival of a hip implant is related to many different mechanisms," Dr. Thillemann noted. "Statins have been associated with improved bone metabolism, improved anti-inflammatory effects and improved prognosis after infections," added Dr. Thillemann.

Because statins are so widely used in older individuals, the same population that is most likely to undergo total hip replacement, Dr. Thillemann said studying the effects of the drugs on THR patients was a logical step.

Dr. Thillemann noted that these drugs may help to improve THR outcomes in several ways, including to:

- encourage bone formation, which may improve the fixation of the implant to the bone;
- reduce inflammation, which can cause the implant to become loose
- reduce the rate of infections at the site of the implant.

While this study evaluated the post-operative use of statins in patients who were taking the drugs primarily for a cardiovascular condition, Dr. Thillemann said future research will help determine whether statins should be prescribed prior to THR in otherwise healthy patients, as well as to determine optimum dosing regimens.

Dr. Thillemann added, any general recommendation of statin use in THR patients depends on several factors, including the:

- association between statin use and the risk of revision;

- effect and safety of statin therapy on other existing medical conditions
- price of statin therapy.

"For the clinician, it is important to know that statins may improve longevity of hip replacements," Dr. Thillemann noted. "In our research group, we continue to our look into the role of statins in the prognosis of hip implants, both in clinical and experimental study designs. Ideally, further studies will confirm our results and make it possible to recommend statin therapy to all patients undergoing hip replacement surgery."

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