Concerns Over ‘Metal On Metal’ Hip Implants

Some of the nation’s leading orthopedic surgeons have reduced or stopped use of a popular category of artificial hips amid concerns that the devices are causing severe tissue and bone damage in some patients, often requiring replacement surgery within a year or two.

In recent years, such devices, known as “metal on metal” implants, have been used in about one-third of the approximately 250,000 hip replacements performed annually in this country. The devices, whose ball-and-socket joints are made from metals like cobalt and chromium, became widely used in the belief that they would be more durable than previous types of implants.

The cause and the scope of the problem are not clear. But studies in recent years indicate that in some cases the devices can quickly begin to wear, generating high volumes of metallic debris that is absorbed into a patient’s body. That situation can touch off inflammatory reactions that cause pain in the groin, death of tissue in the hip joint and loss of surrounding bone.

Doctors at leading orthopedic centers say they have treated a number of patients over the last year with problems related to the metal debris.

Artificial hips, intended to last 15 years or more, need early replacement far more frequently for reasons like dislocation [1] than because of problems caused by metallic debris. But surgeons say that when metal particles are the culprit, the procedures to replace the devices can be far more complex and can leave some patients with lasting complications.

A recent editorial in a medical journal for orthopedic surgeons, The Journal of Arthroplasty, urged doctors to use the metal-on-metal devices only with “great caution, if at all.”

The limited studies conducted so far estimate that 1 to 3 percent of implant recipients could be affected by the problem. Given the large number of people who have received metal devices, that could mean thousands of patients in the United States. Reports suggest that women are far more likely than men to be affected.

Some surgeons are concerned that they may only now be seeing the leading edge of a mounting problem. The current generation of metal-on-metal devices is still relatively new, having been used increasingly over the last decade. Studies show that the devices can shed atomic-size particles of metals like chromium and cobalt that can be readily absorbed by tissue or enter the bloodstream.

Dr. Daniel J. Berry, Mayo’s head of orthopedic surgery states that surgeons at the Mayo Clinic had reduced by 80 percent their use of metal-on-metal implants over

the last year in favor of those made from other materials, like combinations of metal and plastic. Other doctors said that to be cautious they were also scaling back their use of the all-metal implants until the scientific evidence became clearer.

It is not clear whether some makers’ devices are more prone to the debris problem than others.

All hip devices, regardless of the material, create debris as the ball rotates and rubs against the cuplike socket. But in metal-on-metal hips, either because of poor design or poor implant technique, the ball can sometimes press against the cup’s edge. This creates a chisel-like effect referred to as “edge-loading” that produces large volumes of microscopic metallic particles that can cause havoc in some patients.

This is a shorter version of an article published by the New York Times. For a look at the full article, click here:

http://www.nytimes.com/2010/03/04/health/04metalhip.html?pagewanted=1&hpw [2]

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