Case Number Seven of Wrist Osteochondritis Dissecans

There are only six cases of osteochondritis dissecans (OCD) reported in the medical literature. Oops, make that seven with this report from South Korea. With so few cases of any condition, surgeons are at a disadvantage for knowing what treatment is optimal.

In this study, two surgeons report on the results of osteochondral autograft transplantation or the OATS treatment for osteochondritis dissecans (OCD) of the wrist. In particular, the scaphoid bone of the wrist is affected. The scaphoid is the first bone in the wrist next to the radius (forearm bone on the thumb side).

Osteochondritis dissecans (OCD) is a problem that usually affects the knee, but can also occur in other joints such as the elbow, ankle, and wrist. It's a localized problem, meaning it only affects one bone and doesn't spread. The primary area involved is the joint articular surface.

A piece of the articular cartilage detaches or separates from the underlying layer called the subchondral bone. Basically, OCD is a separation of the joint lining from the first layer of bone underneath. When the subchondral bone just under the cartilage surface is injured, there is also damage of the blood vessels to the bone. Without blood flow, the area of damaged bone actually dies. This area of dead bone can be seen on an X-ray and is sometimes referred to as the osteochondritis lesion.

A joint surface damaged by OCD doesn't heal naturally. Even with surgery, OCD usually leads to future joint problems, including degenerative arthritis and osteoarthritis. Treatment has changed and progressed quite a bit in the last 10 years. One of the newer surgical approaches is the osteochondral autograft transplantation (OATS) already mentioned.

The surgeon takes out the damaged area, harvests a piece of donor bone (from the patient), and replaces the damaged bone with the graft. The piece of bone graft is held in place with a wire until full healing takes place. The patient is placed in a protective splint to limit motion that might disrupt the graft.

In this case report, a 36-year-old man with a history of manual labor developed significant wrist pain and loss of motion. A clinical examination along with imaging studies led to the diagnosis of osteochondral dissecans. The surgeons ruled out the possibility of Preiser's disease, another rare disease affecting the scaphoid bone of the wrist.

X-rays showed a defect in the bone. CT scans show abnormal signal intensity to confirm the loss of blood flow to the area. Arthroscopic exam at the time of the surgery confirmed the presence of osteochondritis dissecans along with a partial tear of a supporting ligament (the scapholunate ligament) and tear in the stabilizing triangular fibrocartilage of the wrist.

Following surgery, this particular patient was able to get back to work as a hard manual laborer requiring a six-day work week (eight to 10 hours per day). It's likely that his job requiring repetitive motion of the wrist was a factor in the development of this condition. Although he was able to perform his job once again without discomfort and with full return of wrist motion and strength, he may be at increased risk for another episode of this problem.

The authors make note of the fact that not everyone is a good candidate for osteochondral autograft transplantation. Patients with smaller cartilage lesions are the most likely to benefit from this procedure. When other areas of the joint are damaged, it may be necessary to remove other bones in the wrist along with the scaphoid. Tears in the soft tissues may require additional surgical procedures.

Reference: Young-Keun Lee, MD, PhD, et al. Osteochondral Autograft Transplantation for Osteochondritis Dissecans of the Scaphoid: Case Report. In The Journal of Hand Surgery. May 2011. Vol. 36A. No. 5. Pp. 820-823.