Meniscal scaffold: Outcomes and complications

Injury to the meniscus or loss of meniscal tissue may lead to degeneration of cartilage, pain and osteoarthritis. Healing is usually limited to the vascularized areas in the outer two thirds of the meniscus. In cases of extensive destruction and loss of the meniscus among painful young patients after a meniscectomy, a meniscal replacement procedure can be discussed. Allografts or meniscal scaffold are two current options to treat sequelae of irreparable meniscal tears in young patients. Scaffolds products are designed for substitution of partial meniscal defects in young patients with chronic postmeniscectomy symptoms. Of the 2 currently available scaffolds, the Actifit® polyurethane scaffold offers an interesting surgical option to treat this specific cases.

We did a systematic literature review on Actifit®-meniscal scaffold-polyurethane using Pubmed. Clinical series were extracted from the database and it yielded only 8 level IV series (between January 2012 and March 2015), 180 cases overall. Preliminary and short-term published data are promising (at a mean follow-up of 24 months).

Clinical results are good in the short-term, with significant improvements in all subjective outcome criteria (20 to 25 points of each parameter of the KOOS or IKDC scores, for example). But after 24 months, patient's outcomes are far away from normal uninjured knees. This important point should be clearly explained to the patient before the surgical procedure. It is a salvage procedure to treat severe postmeniscectomized pain syndromes in young patients without early osteoarthritis. In such specific cases, improvement of the knee function can be achieved on the short-term.

Safety and encouraging early results have been shown for the polyurethane meniscal scaffolds. This therapeutic option represents a major addition towards meniscal reconstruction for treating painful segmental meniscal defects after arthroscopic meniscectomy in young patients without osteoarthritis. The most appropriate indications and timing should be determined. The addition of any biological enhancers should be discussed. Mid to long-term follow-up studies with a high level of design are still recommended in the future.