

SUCCESSFUL OD THERAPY WITH BIOABSORBABLE MAGNEZIX[®] PINS*

OBJECTIVES

The treatment of osteochondritis dissecans (OD), stage II, includes conservative and operative procedures as options. In the case of a surgical procedure, devices such as pins made of metallic or polymer materials may be deployed. The objective of the treatment is the refixation of the osteochondral defect using pins from a new generation of implants made of a magnesium-based material (MAGNEZIX[®]). This paper describes the suitability of these innovative pins for this application following the successful surgical treatment and positive clinical deployment.

BACKGROUND

The MAGNEZIX[®] Pin is the world's first biotransformable-metallic implant: it comprises a magnesium-based material and has been on the market since June 2016 for the treatment of indications in orthopaedic surgery. MAGNEZIX[®] is an innovative material setting new standards in the treatment of osteochondral defects because it has none of the weaknesses present in previously available materials (such as steel, titanium and polymers) when applied to refixation: outstanding stability values, bioabsorbability, high osteogenic potency, antibacterial properties and virtually no interference in MRI and CT imaging.

ANAMNESIS AND INDICATION

A 19-year old patient presented himself with load-dependent pain in the left medial knee area. Magnetic resonance tomography shows a large osteochondritis dissecans in the main load-bearing zone (stage II). The conservative treatment attempt (6 weeks without weight) proved unsuccessful. Reflecting increasing densification and sclerotisation of the OD focus, the indication was given for operative refixation.

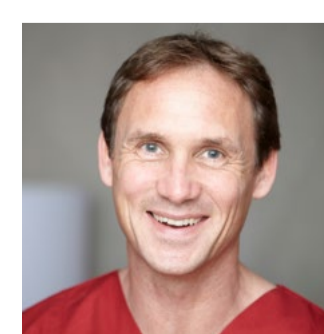
SURGICAL PROCEDURE AND POST-OPERATIVE FOLLOW-UP

Intra-operatively, the OD focus had no unequivocal discontinuity of the cartilage surface. The cartilage was fixed with three MAGNEZIX[®] Pins: the pins were countersunk below the cartilage surface. In addition, anterograde pre-drilling took place using Kirschner wires. No problems occurred during the procedure. The post-operative radiograph after 10 days showed the pins to be in normal position. Clinical examination 3 months post-operative shows the patient to be without pain under full load. The MRI follow-up control showed the OD focus to be no longer definable. The sclerosis zone was no longer identifiable. The pins are unchanged compared with the post-operative radiograph. After 12 months the patient continued to be free of symptoms. The MRI follow-up showed clear evidence of the degradation process and the transformation of the magnesium into bone tissue.

SUMMARY

The paper describes the application of MAGNEZIX[®] Pins in the refixation of a cartilage-bone defect in the knee on the base of an OD. The surgeon considers MAGNEZIX[®] Pins to be excellently suited for this indication area, because they are easy to use intra-operatively, in particular because of their high degree of stability, they are easy to handle and produced a flawless clinical treatment outcome.

*Author and surgeon



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Specialist for surgery, trauma surgery and orthopaedics, special trauma surgery, accident insurance consultant

OP-Team
Anaesthesist: J. Hohm
Instruments: J. Mosee

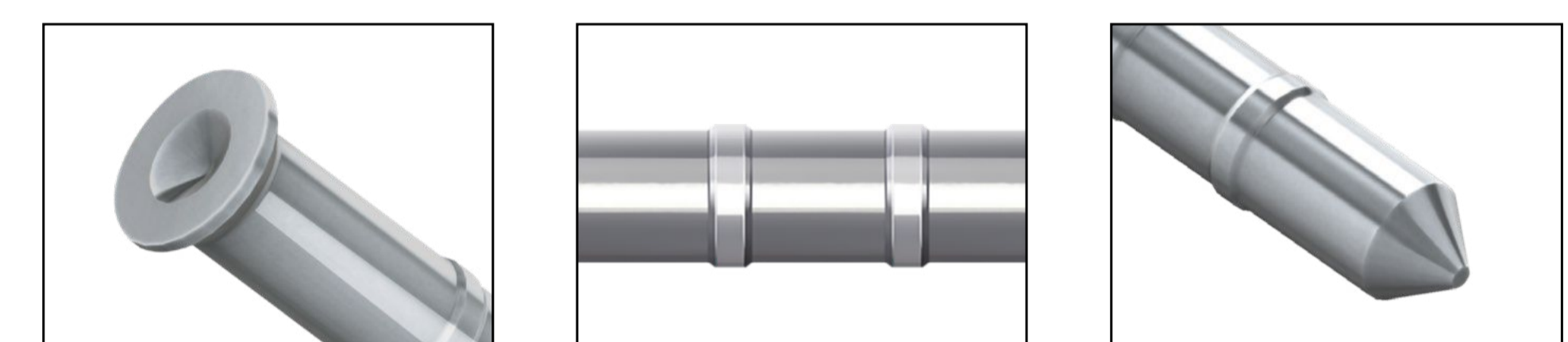
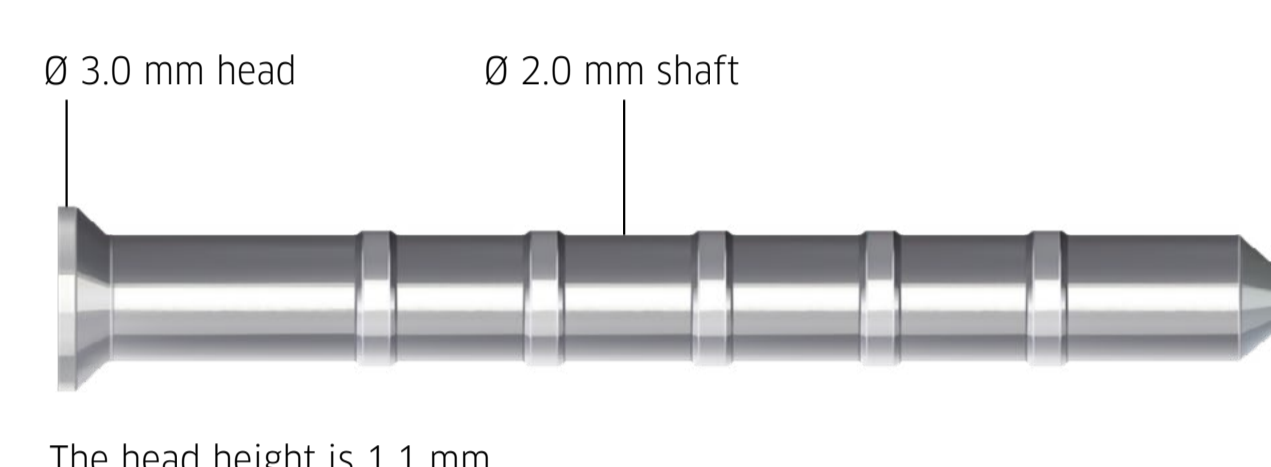
INFO-BOX

PATIENT: male, 19 years

DIAGNOSIS: Unsuccessful conservative therapy of a major osteochondritis dissecans of medial femur condyle of left knee, stage II.

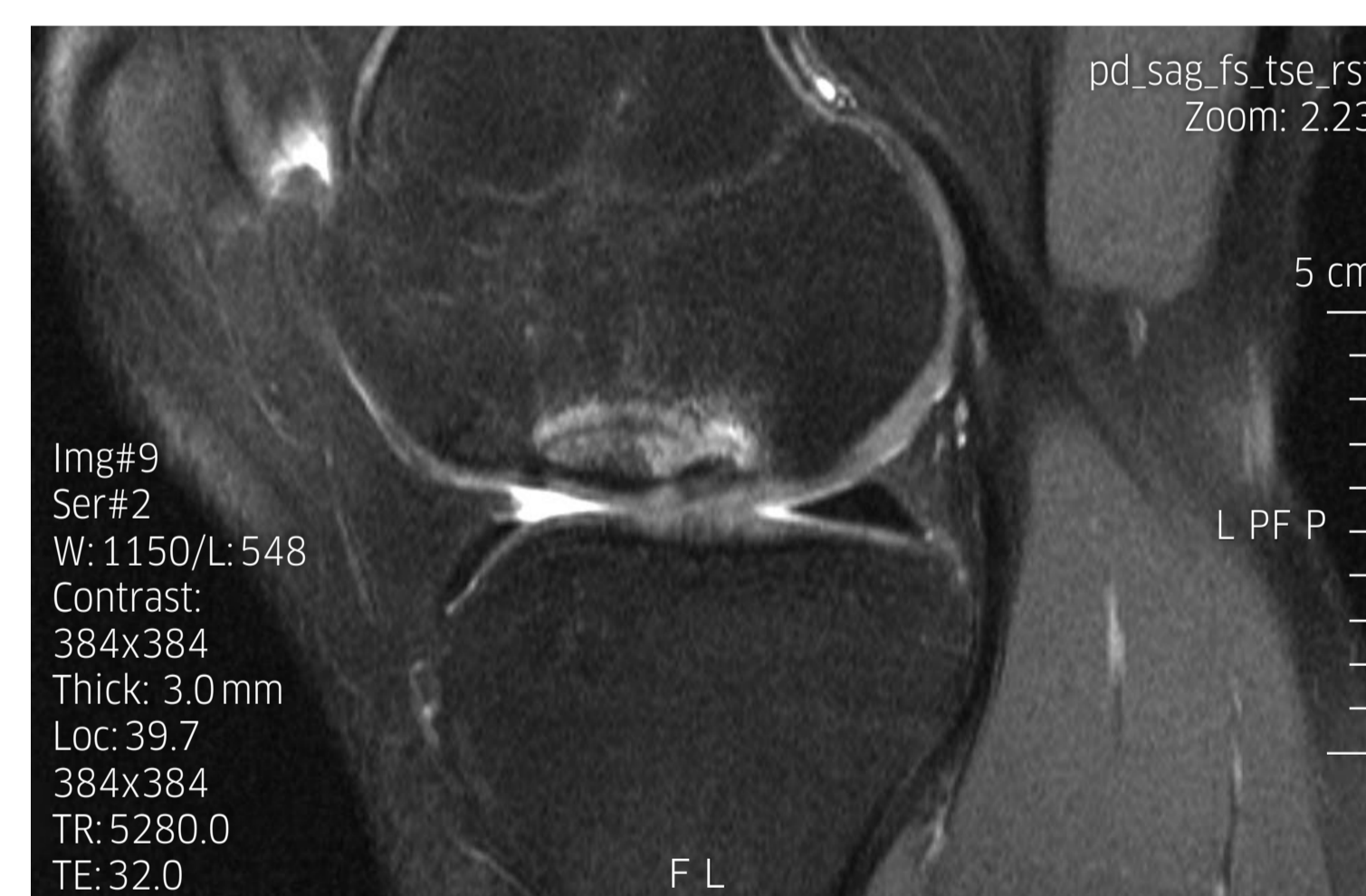
OPERATION: Arthrotomy of left knee joint and refixation using three MAGNEZIX[®] Pins, plus four-fold anterograde pre-drilling.

IMPLANTS: MAGNEZIX[®] Pin 2.0, 2 x 40 mm, 1 x 38 mm



PROCEDURE: Free movability, rest of left leg for 6 weeks. During that period thrombosis prophylaxis. Post-operative radiology image left knee, side view, **plus MRI follow-up control 12 months post-operative.**

Praeop:



Postop (3 months):



Postop (1 year):

