

Arthroscopic Ankle Arthrodesis: Therapeutic Alternative for Post-Traumatic Osteoarthritis with Skin Risk

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Abstract **Case Report**

In the age of arthroplasty, tibio-talar arthrodesis remains a treatment option of choice for major ankle destruction. Arthroscopy, by limiting soft tissue invasion, reduces complications with similar or even better efficacy than open techniques. Arthroscopic tibiotalar arthrodesis is an elegant, reliable, less iatrogenic method suitable for all indications of ankle arthrodesis except those with large deformities or loss of bone substance. However, this technique remains difficult and requires a significant learning curve.

Keywords: Post-Traumatic Osteoarthritis, Ankle Arthrodesis, arthroscopy.

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INTRODUCTION

In the age of arthroplasty, tibio-talar arthrodesis remains a treatment option of choice for major ankle destruction. Arthroscopy, by limiting soft tissue invasion, reduces complications with similar or even better efficacy than open techniques.

We report the case of an arthroscopic ankle arthrodesis in a 45 year old patient with a high skin risk following a comminuted tibial pilon fracture complicated initially by pseudarthrosis and then by talocrural arthrosis.

OBSERVATION OF THE PATIENT

The patient was a 45-year-old smoker who presented with a closed right ankle injury following a Traffic accident. The radiological assessment showed a comminuted fracture of the metaphyseal tibial pilon with fracture of the lateral malleolus (Fig. 1). The patient was treated urgently with internal plate's osteosynthesis via two approaches (Fig. 2). The evolution was marked by several complications: pseudarthrosis, axis defect of the ankle and then after 2 years a Talo-crural arthrosis (Fig. 3). An arthrodesis of the ankle under arthroscopy by 3 screws was indicated in view of the poor skin condition (thin skin, scarring, surgical revision) in addition to the patient's smoking habit (Fig. 4). The surgery was uneventful and did not require removal of the osteosynthesis material with anterior. Arthroscopic tibiofibular fixation. Radiological

controls showed fusion after 6 weeks and clinically, the ankle was indolent and stable when walking. After 6 months, the functional result was satisfactory (Fig.5).



Fig-1;2;3



Fig-4

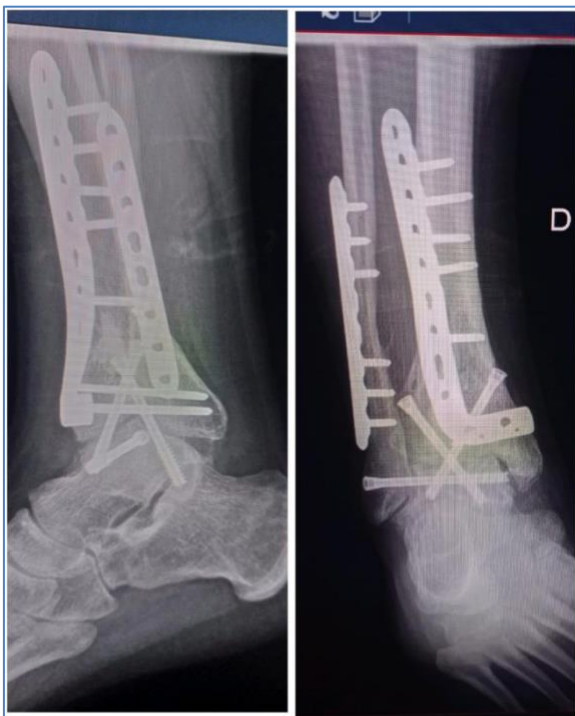


Fig-5

DISCUSSION

The arthroscopic tool has become indispensable for the performance of tibio-talar arthrodesis. It can now be considered that it has become the gold standard of surgical technique and that open surgery should now be reserved for the only technical contraindications of the arthroscopic procedure (removal of material in non-healed arthrodesis, osteophytes that do not allow the creation of a working chamber, eccentric talus, major malunion, loss of bone substance requiring a graft, associated deformity of the midfoot, etc.).

The first publications on arthroscopic tibio-talar arthrodesis date back to the early 1990s. Consolidation rates and fusion times were comparable to those of the open technique but with a significant reduction in postoperative complications (infection, skin necrosis, etc.). The arthroscopic technique has long been limited to moderate deformities, with frontal or sagittal angular deviations of less than 10°.

Recent literature no longer seems to limit its indications to such deformities and today the only limiting factor is the experience of the operator.

CONCLUSION

Arthroscopic tibiotalar arthrodesis is an elegant, reliable, less iatrogenic method suitable for all indications of ankle arthrodesis except those with large deformities or loss of bone substance. However, this technique remains difficult and requires a significant learning curve.

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