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Editorial

Arthroscopic Assisted Open Reduction and Internal Fixation of Ankle Fractures: Fundaments of a Growing Trend

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Ankle fractures are one of the most common in the lower limb representing 9% of all fractures. Open reduction and internal fixation is the treatment of choice of unstable ankle fractures which is frequently regarded as technically simple and one of the first procedures usually performed by residents during their training. Despite this apparent simplicity, it's known that even considering anatomically reduced fractures, good or excellent outcomes are not achieved in approximately 20% of patients [1].

The growing knowledge of biomechanics and associated conditions has shown much complexity surrounding these apparent simple fractures. Contributing factors for a poor outcome are missed syndesmosis injuries, syndesmosis malreduction, associated osteochondral and ligamentous injuries. An anatomic reduction in the X-ray does not exclude these complications.

Arthroscopy offers the possibility of direct visualization and testing of syndesmosis with a higher sensibility and specificity than MRI [2]. Also, intraoperative X-ray testing has a lower than expected sensibility [3]. Additionally, arthroscopy offers the possibility of assisting in reduction and fixation of posterior malleolus when it contributes to syndesmosis instability, as well as evaluating adequate reduction of syndesmosis after fixation. The importance of true anatomical reduction has been highlighted by the classical studies of Ramsey and Hamilton which have shown that just one millimetre of lateral talus translation reduces 42% of contact area, significantly changing force transmission across this joint.

Cartilage and syndesmosis injuries have a high correlation [4] and, the first, represents an independent risk factor for post traumatic osteoarthritis [5]. It's prevalence is much higher than previously thought. Some studies using arthroscopy assisted open reduction and internal fixation (AORIF) report an incidence of chondral injuries as high as 63 to 91% [6,7]. That being said, arthroscopy represents a powerful tool which allows the diagnosis and treatment of those injuries in the index procedure.

Ankle arthroscopy increases technical complexity in the management of ankle fractures. It requires experience with the procedure which might represent an obstacle in the diffusion of this technique. Other drawbacks might be an increased cost of the index procedure and an increased surgical time.

Considering there's much beyond fracture displacement, arthroscopy as an accessory tool is consolidating it's place in the management of ankle fractures. Specially in young and high demand patients, overlooking associated injuries might represent an avoidable future burden. Despite literature supporting the theoretical bases for the use of arthroscopy, comparative studies with long follow up are still scarce and are required to establish superiority of AORIF. Given the growing enthusiasm in this area, this will certainly be a hot topic with interesting developments in future years.

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Volume 5 Issue 9 September 2021

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