Our Experience in the Arthroscopic Treatment of Posterior Ankle Impingement by Posterior Approach

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Disclosure Information

- Nothing to disclose
Objective of the Study

• To report our experience in treating posterior ankle impingement syndrome (PAIS)
• Using the posterior ankle arthroscopic approach described by Niek van Dijk
  - with the patient in a prone position
  - through a double para-achilleous portal
PAIS Etiology

- Anatomical deformity with chronic impingement (e.g. classical ballet)
  - Increased posterior tibial slope
  - Hipertrofic Os Trigonum
- Post Traumatic
- Ligamentous
- Instability/Laxity
• **51** patients treated between 2014 & 2018
• Affected by PAIS

→ Arthroscopic **findings**:

- Secondary tendinitis due to os trigonum
- Primitive tendinitis of the FHL
- Loose body
- Misdiagnosed posterior process fracture
Posterior ankle arthroscopy surgical technique

- Patient positioning

  • Prone position with soft surfaces to lift the ankle
  • The foot lean out of the table to allow free dorsiflexion of the ankle
Methods

Posterior ankle arthroscopy surgical technique

Both arthroscopic portals are along the edges of the Achilles tendon
Methods

Posterior ankle arthroscopy **surgical technique**

**Lateral** portal
- performed first
- At the level of lateral malleolus tip

**Medial** portal
- is performed at same level of the lateral portal
Posterior ankle arthroscopy *surgical technique*

Scope is introduced through the lateral portal, pointing towards the 2\textsuperscript{nd} metatarsus until it touches the posterior surface of the talus bone.
Methods

Posterior ankle arthroscopy *surgical technique*

• Shaver is introduced through the medial portal at about 90° respect to the scope (A)

• In this phase there will be no reference points and the tip of the scope surrounded by soft tissues (B)

• Space between soft tissues is created from lateral to medial to display the Flexor Hallucis Longus Tendon (FHL)(C)
Methods

Posterior ankle arthroscopy *surgical technique*

**IDENTIFICATION OF THE FHL**

- FHL is an important landmark
- The FHL is lateral to the neurovascular (NV) bundle → *avoid to work medially to the FHL*

![IMAGE SHOWING IDENTIFICATION OF FHL AND SAFE ZONE]
Posterior ankle arthroscopy *surgical technique*

**OS TRIGONUM (OT) REMOVAL**

Methods

**FHL**

**OT**
Posterior ankle arthroscopy \textit{surgical technique}

\textbf{OS TRIGONUM (OT) REMOVAL}

Methods

Secondary Chronic FHL tendinopathy
Results

• **51** patients treated between 2014 & 2018 affected by PAIS

• Mean recovery time was two weeks after surgery

• **47/51** patients (92%) returned to the previous sport activity level

• Both the functional (AOFAS) and the pain (VAS) score significantly improved post operatively
Results

![Graph showing AOFAS and VAS scores before and after surgery]
Post operative complications:

- We did not have any major complications (e.g. vascular lesions)
- 5/51 patients (9.8%) had a post op. hematoma and 2 of these pts (3.9%) developed a transient neuropraxia of the posterior tibial nerve with (transient) plantar paresthesia
- The neurological symptoms resolved after 6 months with medical and physical therapy in both cases
Conclusions

- We obtained **good to optimal results** treating posterior ankle pathologies with posterior ankle arthroscopy.
- **FHL is a fundamental landmark** and it must be individuated at the beginning of the procedure.
- **Avoid** any maneuver performed medially to FHL.
- The most common pathology affecting the posterior ankle is posterior ankle impingement syndrome (PAIS).
Conclusions

Not the aim of our study but...

- **PAA is an available option for PASTA** (Posterior Arthroscopic SubTalar Arthrodesis)
Significance of the findings

- Posterior ankle arthroscopy (PAA) is a safe and reliable procedure

- PAA should be the common approach to treat the pathology of the posterior compartment of the ankle
Thank You