The Effectiveness of Ultrasonographic Guided Corticosteroid Injection for the Posterior Ankle Impingement Syndrome

Jun Sasahara, Masato Takao, Wataru Miyamoto, Ken Innami, Youichi Yasui, Hirotaka Kawano, Takashi Matsushita

Department of Orthopaedic Surgery
Teikyo University School of Medicine
My disclosure is in the Final AOFAS Mobile App.

I have no potential conflicts with this presentation.
Purpose

Posterior ankle impingement syndrome (PAIS) is a clinical disorder characterized by posterior ankle pain during forced plantar flexion \(^1\). While hindfoot endoscopic surgery for PAIS is a widely accepted technique \(^1\), there is no consensus on which exact conservative treatment should be chosen before surgery.

The purpose of this study was to evaluate the effectiveness of ultrasonographic (US) guided corticosteroid injection for PAIS.
Materials and Methods

A total of 32 ankles diagnosed as PAIS by the clinical history and the physical examination were enrolled in this study.

All patients had suffered posterior ankle pain despite at least 3 months of conservative treatment except injection.

US guided corticosteroid and anesthetic injections were performed for all patients.
Materials and Methods

The targets of the injection were the tendon sheath of flexor hallucis longus (FHL) and the lateral tubercle of the talar posterior process (or os trigonum if it exists).

Injections were repeated not exceeding three times at four weeks interval if symptoms persisted.

The American Orthopaedic Foot and Ankle Society (AOFAS) scores were evaluated at median of 11 (2–32) months after injection.
US guided injection

1ml of 1% lidocaine and 1.65mg of dexamethasone

TARGET

tibial nerve
Achilles tendon
FHL
25G needle

Lateral tubercle of the talar posterior process
Results

Reduction of pain after injection was observed in all patients.

There were **NO complications** such as infections, tendon ruptures and nerve injuries.

While 9 ankles (28%) required surgeries because of persistent pain, **23 ankles (72%) avoided operative treatments.**
Results: Median AOFAS score

- Preintervention: 75.0
- 4wks: 87.0
- Final follow-up: 87.0

*p<0.05
Discussion

While there was controversy as to whether or not corticosteroids should be held responsible when a tendon rupture occurs following local steroid treatment, Coombes et al ²) revealed acceptable risk (0.1%) of corticosteroids peritendinous injections.

RISK Factors?

Robinson et al ³) reported the effectiveness of US guided corticosteroid injection for PAIS (n=10). While 8 ankles without os trigonum had good/excellent results, 1 of 2 ankles who had os trigonum underwent surgery.
Discussion

32 ankles

Were there os trigonum or Steida process?

NO: 8 ankles

unknown: 4 ankles

Yes: 20 ankles

Number of surgical operation

1 ankle (13%)

8 ankles (40%)
US guided corticosteroid and anesthetic injection was minimally invasive and suitable for PAIS before operative treatments.
References