Causes of Posterior Ankle Pain in Ballet Dancers

Presenting:

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Summary:
In order to clarify the causes of posterior ankle pain in ballet dancers, 143 feet of 108 patients, including six feet of four male patients, who underwent surgery, were retrospectively examined mainly with operative and histological findings. Approximately 80 per cent of the patients were related to bony impingement, and about half of them were affected FHL pathology concomitantly. Soft tissue impingement, anomalous muscles, talocalcaneal coalition, and etc. were also observed. It is very important to recognize pathological conditions pre-operatively and to select a suitable approach.

Abstract:
Introduction / Background:
Posterior ankle pain is a common problem in ballet dancers, it, however, sometimes becomes very irritable and decreases physical performance. Many pathological conditions are known of the causes, such as os trigonum impingement, flexor hallucis longus (FHL) tendinosis or tenosynovitis, fracture of the Stieda process, and so on.

Aim / Purpose:
The purpose of this study is to elucidate the pathologies of the posterior ankle pain and to clarify how to approach and treat these conditions.

Methods:
Between October 1999 and December 2008, 143 feet of 108 patients, including only 6 ft. of 4 male pts., underwent surgery due to posterior ankle pain. Average age was 19.7 years (10-46) at the time of the operation. The causes of the pain were retrospectively analyzed mainly with operative and histological findings, also referring with X-ray, MRI, and ultrasonographic findings. Surgical approaches were also considered of their characteristics.

Results:
Bony impingement (BI; os trigonum and/or posterior process of the talus impingement, including fractures) was observed in 68 ft. of 55 pts., FHL pathology (tendinosis and/or tenosynovitis, distal insertion of muscle fibers) in 16 ft. of 15 pts., BI combined with FHL pathology in 43 ft. of 36 pts., ligamentous impingement (LI; impingement of transverse tibiofibular ligament) with BI in 4 ft. of 4 pts., BI with LI and FHL pathology in 5 feet of 5 pts., BI with anomalous muscle in 4 ft. of 3 pt. (in one foot affected of also posterior subtalar osteoarthrosis ), and BI with talocalcaneal coalition in 1 foot of 1 pt. Lateral approach was adopted in 5 ft. of 3 pts., medial approach in 122 ft. of 92 pts., posterior arthroscopic approach published by van Dijk in 14 ft. of 13 pts..

Discussion / Conclusion:
BI was the major pathological process, related in approximately 80 per cent of the pts., special attention, however, should be paid to some other conditions concomitantly existed. Lateral approach is indicated to BI and LI. Medial approach is preferable in case of the FHL pathology exists, especially when repair of the FHL tendon or extirpation of ganglions on the tendon sheath is necessary. The posterior arthroscopic approach
enables to treat BI, LI, and tenolysis of the FHL tendon, and has also diagnostic potentials. It is very important to recognize pathological conditions pre-operatively and to select a proper approach.