An anatomical study of the tarsal tunnel: A cadaveric study

Tarsal tunnel is a passage formed between the flexor retinaculum and the underlying tarsal bones. Tendons of tibialis posterior, flexor digitorum longus, flexor hallucis longus and the neurovascular bundle of the posterior compartment of the leg pass through this tunnel in separate fascial compartments. To relieve symptoms and signs of Tarsal tunnel syndrome, orthopedic surgeries and anesthetic nerve blocks are used. Therefore, knowing the anatomy of the tarsal tunnel is important to understand and manage conditions related to this region.

The aim of this study, is to describe the morphology and its possible variations in a Sri Lankan population compared to what is described in standard anatomy text books. A descriptive study was carried out by dissecting 28 human cadavers available in the Department of Anatomy, University of Kelaniya.

Typical anatomy was observed in 26 cadavers (92.85%) where tibialis posterior (TP), flexor digitorum longus (FDL), neurovascular bundle and flexor hallucis longus (FHL) were in separate compartments anterior to posterior respectively. In one cadaver (3.57%) FDL and FHL were in a single compartment. In another cadaver (3.57%) bifurcation of the tendon of flexor digitorum longus was observed passing through a separate compartment posterior to neurovascular bundle.

Even though the majority of the results were in agreement with the typical description of the anatomy of the tarsal tunnel, a certain degree of variability was observed in this area. This knowledge will be of use to clinicians involved in procedures related to the tarsal tunnel.