Variations in the Termination of the Human Thoracic Duct

Rizvi Hasan, Sujatha Salgado, Aranjan Karunanayake, K.A.Salvin, Prasadth Fernando, Lanka Ranaweera, Susantha Vithanage & Prabath Wijesooriya, Department of Anatomy, University of Kelaniya.
Isurani Ilayperuma, Department of Anatomy, University of Ruhuna.
Eresha Fernando, Teaching Hospital, Peradeniya.

Introduction: The mammalian thoracic duct is the main lymphatic channel which drains lymph from the distal extremities of the trunk, lower limbs and the left half of the proximal trunk. In humans, it runs a typical course commencing over the twelfth thoracic vertebra and ascends through the aortic orifice of the diaphragm. It inclines to the left at the level of the Sternal angle and terminates by draining into the left jugulosubclavian junction.

Objectives: Variations from this typical course are not uncommon and have been the subject of extensive research. Knowledge of the possible variations in the thoracic duct would enable accurate thoraco-cervical surgery, thus preventing inadvertent damage to the thoracic duct and consequent leakage of chyle. This research is carried out with the aim of enhancing the existing knowledge of the possible variations of termination of the human thoracic duct while also documenting a relevant Sri Lankan study.

Methodology: This research was carried out as a descriptive study in 36 preserved human cadavers in the Departments of Anatomy, the University of Kelaniya and the University of Ruhuna.

Results: In 22 (61.11%) cadavers the thoracic duct drained into the left jugulosubclavian junction whereas in 11 (30.56%) cadavers it drained into the left subclavian vein. Moreover, in 2 (5.56%) cadavers it drained into the left internal jugular vein. Interestingly, in 1 (2.77%) cadaver thoracic duct drained into both left subclavian vein and jugulosubclavian junction through the presence of a bifurcation.

Conclusion: It was apparent that majority of the findings are comparable to previous research, while there were variations in the percentage incidence of the findings.