

ANATOMICAL LOCATION OF PARATHYROID GLANDS IN RELATION TO THE CRICOID CARTILAGE AND TRACHEAL RINGS

Romini N¹, Uthayakumar S¹, Yasawardene S G²

¹ Department of Anatomy, Faculty of Medicine, University of Jaffna, Sri Lanka.

² Department of Anatomy, Faculty of Medical Sciences, University of Sri Jayewardenepura, Sri Lanka.

Introduction: Surgical management of parathyroids depends on experience of Surgeons. Parathyroids are difficult to identify because of its variation in number and location.

Objectives: The aim of the study was to report anatomical variation in location of superior and inferior parathyroids (SPGs & IPGs) in relation to underlying cricoid cartilage and tracheal rings (TR).

Materials and methods: A total of 105 fresh normal adult thyroids were collected from Judicial Medical Officer, Colombo South Teaching Hospital. Ethical clearance was obtained from Ethics Review Committee, Faculty of Medical Sciences, University of Sri Jayewardenepura. Parathyroids were identified under dissecting microscope and level of its location in relation to underlying cartilages was noted.

Results: Total of 334 (79.52%) parathyroids were identified. Out of it, 1.2% (4) parathyroids were located above cricoid, 14.1% (47) were at cricoid cartilage. 33.5% (112) were at the level of 1stTR, 6.6% (22) were at 2ndTR. 27.5% (92) were at 3rdTR, 10.8% (36) were at 4thTR, 5.7% (19) were at 5thTR and 0.6% (2) parathyroids were at level of 6thTR.

Discussion: Comparatively maximum number of parathyroid was located at the level of 1stTR. According to Sultana et al., 2007, Middle 1/3rd portion of thyroid lodged most of parathyroids. Although SPG are documented as more constant near cricothyroid junction, 1stTR which is just below it could be considered as a better bony landmark. Total of 48.8% (163) of parathyroids were located at or above 1stTR, and could be considered as SPG.

According to Harold in 1997, IPG is usually situated near lower pole (LP) and next common site is within 1 cm of LP. Total of 44.6% (149/334) of parathyroids were located near LP either at 3rd, 4thTR or just below and them could be considered as IPG. Remaining 6.6% (22) were located at the level of 2ndTR and could be either superior or inferior.

Conclusions: Precise knowledge about anatomical variation of parathyroids is helpful for performing successful surgeries.