

PP 21 Anatomical variation in number and location of parathyroid glands – a Sri Lankan post mortem study

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INTRODUCTION: Knowledge of anatomical variation of parathyroid glands (PGs) is essential for safe thyroid and parathyroid surgeries. Number and location of PGs vary and 80% of normal adults have four PGs. Superior PGs are documented to be relatively constant in location near the cricothyroid joint than inferior PGs. Racial differences have been observed and documented.

OBJECTIVES: This study was conducted to determine topographical variations of PGs in fresh post-mortems conducted at Judicial Medical Office, Colombo South Teaching Hospital.

METHODS: Thirty eight fresh post-mortem thyroid glands with no history of thyroid disease were studied. Morphometric measurements were taken macroscopically as well as using dissecting microscope at the time of post-mortem. The number of PGs were identified and the distance from cricothyroid joint (CTJ) to the PGs and the branch of inferior thyroid artery (ITA) that supplies PGs were observed by dissecting microscope. Finally PGs were removed and confirmed by histology.

RESULTS: Out of 38 thyroid glands (29 male and 9 female), all four PGs were identified in 23.5%(9/38), three PGs in 29%(11/38), two PGs in 37%(14/38) and only one PG was identified in 2.5%(1/38). Five PGs were found in 8%(3/38). Out of 113 PGs identified, 81%(92/113) lie within 2cm from CTJ and 19%(21/113) lie within 3 cm from CTJ. Among them 87% (98/113) of PGs had an arterial branch arising from ITA and passing towards them probably supplying the PGs.

CONCLUSION: Number of identified PGs varied from one to five in each individual. Majority of PGs lie quite close to CTJ and this knowledge of most constant location of PGs and the origin of the arterial vascularisation could improve the results of the thyroid & parathyroid surgery and diminish the complications.