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Branching pattern of Inferior thyroid artery and its relationship to the recurrent laryngeal nerve in Sri Lankans

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Careful study of position of terminal branches of inferior thyroid artery (ITA) in relation to recurrent laryngeal nerve (RLN) is required for safe thyroid surgery. Generally ITA divides and enters middle or lower portion of the thyroid. Near the lower pole, RLN is always intimately related or positioned with ITA. Previous studies have documented possible ethnic and gender variation with reference to origin and branching pattern of ITA. This study was conducted to determine anatomical variations in branches of ITA and its relation with RLN in fresh post-mortems conducted at Judicial Medical Office, Colombo South Teaching Hospital. Fifty thyroid samples (36 males and 14 females) without thyroid diseases were taken. Total of 42 left (L) and 38 right (R) were studied for relationship between ITA and RLN and remaining sides either ITA or RLN was damaged. Three types of positioning were recognized: RLN passing posterior to ITA or its branches (Type A: 64%), RLN passing anterior to ITA or its branches (Type B: 16%) and RLN passing in between branches (Type C: 20%). Total of 34(L) and 31(R) were studied for entering pattern of ITA, 52% entered into middle and 48% into lower portion. Total of 39(L) and 40(R) were studied microscopically for terminal branches with 2 branches present in 57%, 3 branches in 42% and 4 branches in 1%. This study revealed that Type A was predominant in both genders and ITA divides into 2 or more branches as similar with Asians and Americans in other documented studies. Most of ITA enters into middle lobe and type B was more common in females.

Key words: Inferior thyroid artery, recurrent laryngeal nerve, relations, thyroidectomy

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