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Research Article

MEDICAL ARRANGEMENT, OCCURRENCE AND POST-OPERATING DIFFICULTIES OF RHYTHM THYROMEGALY¹Roman Bibi, ²Dr Umer Farooq, ³Bushra Ashraf¹Hayatabad Medical Complex Peshawar, ²DG Khan Medical College, Dera Ghazi Khan, ³THQ Hospital Gojra.

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Abstract:

Objective: post-operating difficulties in the victims appeared with thyromegaly and this assessment work carried out to find out the proportion of occurrence of rhythm thyromegaly (RSG), its Medical expressions.

Methodology: All the victims suffering from thyromegaly were assessed for the thyroidal's rhythm extension, Medical expressions and post-operating complication. This is prospective, transverse assessment work which carried out in Surgical procedure Department of Sir Ganga Ram Hospital, Lahore from December 2016 to August 2019.

Results: We found the rhythm extension of two lobes in 83.17% victims, and extension of single lobe in 16.16% victims. Among total nine hundred and seventy eight victims, 9.15% (n: 89) victims were present with thyroidal's rhythm extension. Most of the victims were females (94.55%) & euthyroidal (91.03%). Total 39.35% victims were in their 5th decade of life. There was presence of recurring laryngeal nerve palsy in 4.47% victims. There was development of hypocalcaemia in 3.36% victims as well as same proportion of contagion of wound after operating intervention. The most common complaint was dyspnea according to most of the victims, followed by headache in 30.35% and dysphagia in 25.85% victims.

Conclusion: The Surgical procedure of this complication is easily possible through cervical technique. Thyroidal's rhythm extension is very common.

Keywords: rhythm, Surgical procedure, occurrence, thyroidal, palsy, extension, thyromegaly, prevalence, lobes, development, cervical.

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INTRODUCTION

RSG is uncommon arrangement of intra-thoracic extension of an enflamed thyroidal, normally as an outcome of multi-nodular thyromegaly. There is variety of the definition of thyromegaly in available literature. Golden burg [1]. There can be finding of ectopic thyroidal tissue in rare circumstances in center part of neck, subsequent region of tongue, below the lower pole of thyroidal and sometimes in the anterior mediastinum [2] described it when greater than fifty percent of thyroidal tissue under thoracic inlet and White in 2008 defined it when it needs mediastinal dissection [3] elaborated the RSG when it reaches the level of 4th thoracic vertebra, Singh in 1994 [4]. Both portions of cervical and rhythm sides normally maintain their supply of blood directly from the arteries of thyroidal. In 75.0% to 90.0% victims, the location of gland is in the antero-superior compartment and in 25.0% victims, gland was present in middle compartment. Ectopic thyroidal tissue had abnormal supply of blood from the loco-regional vessels of blood [5].

The most accepted standard is prescribed by Candela which described that when there is extension of thyroidal more than two centimeter under thoracic inlet [6]. The rationale of this assessment work was to find out the proportion of occurrence of RSG, Medical manifestation and post-operating intervention in the victims suffering from thyromegaly [7, 8]. The removal of thyroidal with operating intervention is a matter of choice and most of the victims present have improvement following the operating intervention. The removal of RSG is possible through cervical incision in most of the victims except among victims present with past history of mediastinal operating intervention.

METHODOLOGY:

Ethical committee of the institute gave the permission to conduct this assessment work. This transverse assessment work carried out in the Department of Surgical procedure of Sir Ganga Ram Hospital, Lahore from December 2016 to August 2019. The

assessment of all the victims suffering from thyromegaly carried out and we included the victims present with the thyroidal's rhythm extension in this assessment work. For the evaluation of the rhythm extension, we followed the standard prescribed by Candela. We took written consent from the victims after explaining them the purpose of this assessment work. We excluded all the victims present with the rhythm extension of less than two centimeters of thyroidal tissue under thoracic inlet diagnosed during operating intervention or present with no rhythm extension. In accordance with this standard, any enlargement of thyroidal greater than two centimeter detected under thoracic inlet during Surgical procedure, when the necks of the victims were held in extension is regarded as RSG.

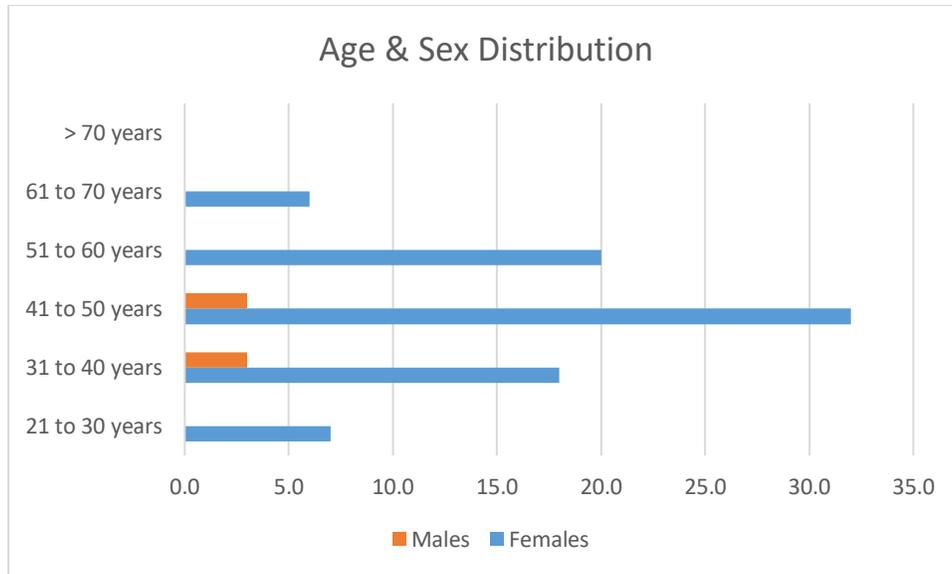
The preparation of the victims for Surgical procedure carried out and we performed necessary investigations for application of thyroidectomy. All these victims got admission and underwent complete Medical, histopathological and bio-chemical evaluation. In the suspected victims, the examination of the degree of the thyroidal extension carried out by investigations as chest X-ray chest, X-ray of thoracic inlet or computed tomography and then confirmed at the time of operating intervention. The assessment of the results carried out and we used EPI-6 software for the statistical analysis of the collected information. All the victims underwent thyroidectomy through cervical approach.

RESULTS:

Among total diagnosed victims, 9.10% (n: 89) victims were present with confirmed diagnosis of thyroidal's rhythm extension. Total nine hundred and seventy eight victims reported with multi-nodular thyromegaly in OPD of Surgical procedure Department in the duration of this assessment work. Most of the victims were females and they were in their 4th and 5th life decade (Table-1) as 23.58% and 39.34% correspondingly. No victim of this assessment work was present with the mediastinal thyroidal rhythm site.

Table- I: Age and Sex distribution of Rhythm Thyromegaly in different age groups.

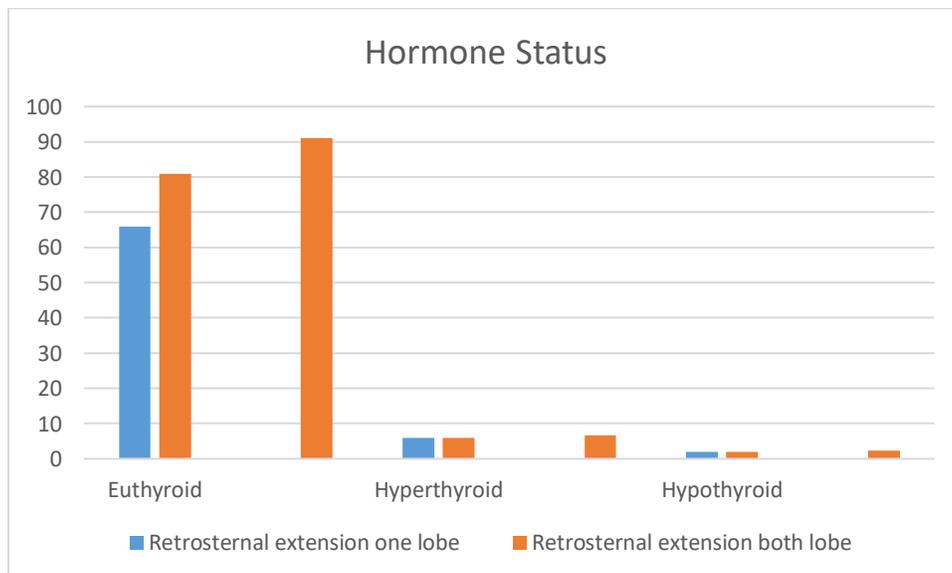
Age Groups	Females	Males	Total Percentage among group	
> 70 years	-	-	-	-
61 to 70 years	6.0	-	6.0	6.740%
51 to 60 years	20.0	-	20.0	22.480%
41 to 50 years	32.0	3.0	35.0	39.330%
31 to 40 years	18.0	3.0	21.0	23.590%
21 to 30 years	7.0	-	7.0	7.860%



This table also describes the lobe involvement in the thyroidal's rhythm extension. Most of the victims (91.03%) were euthyroidal and 6.740% victims were present to be hyperthyroidal as mentioned in Table-2.

Table-II: Hormone Status of Rhythm Thyromegaly

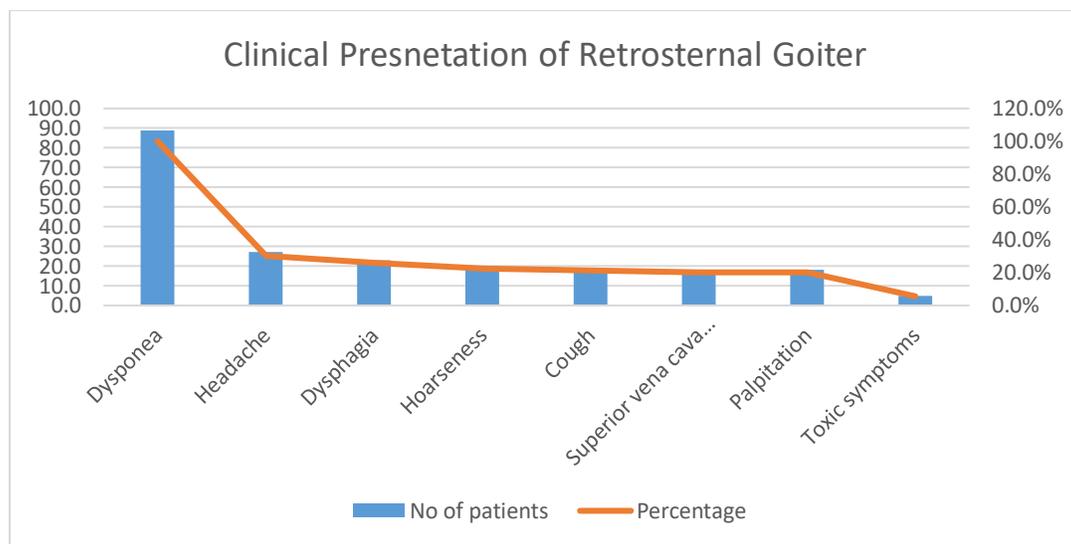
Type of Thyromegaly	No	Percent	Hormone Status					
			Euthyroidal		Hyperthyroidal		Hypothyroidal	
			No	%	No	%	No	%
Rhythm extension both lobe	74	83.14	66	-	6	-	2	-
Rhythm extension one lobe	15	16.86	15	-	-	-	-	-
G.Total	89	100	81	91.03	6	6.75	2	2.25
95% Confidence limits			82.55 to 95.75		2.78 to 14.64		0.42 to 8.62	



Only 16.85% were present with rhythm extension of single lobe and all of these victims were euthyroidal. Total 83.15% victims were present with the rhythm extension of two lobes and sixty six out of seventy four victims were euthyroidal. Other following complaints examined were headache in 30.330%, dysphagia in 25.84% and change of voice in 22.47% victims (Table-3). All the victims present with the thyroidals rhythm extension were having the complaint of dyspnea.

Table-III: Medical Arrangement of Rhythm Thyromegaly

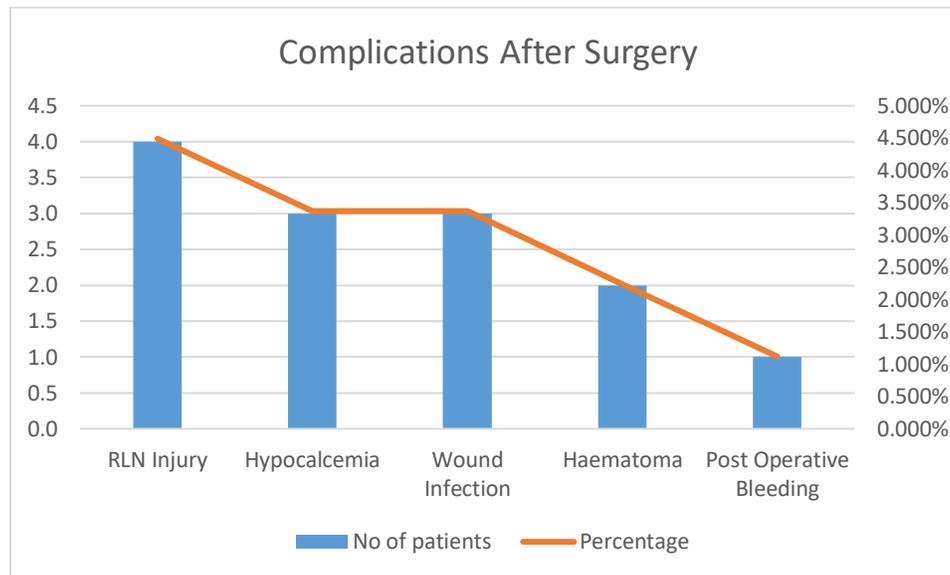
Medical arrangements	No of victims	Percentage
Hoarseness	20.0	22.46%
Cough	19.0	21.35%
Superior vena cava	18.0	20.23%
Palpitation	18.0	20.23%
Toxic symptoms	5.0	5.62%
Dyspnea	89.0	100.0%
Headache	27.0	30.35%
Dysphagia	23.0	25.85%



There was successful performance of all the surgeries through operating approach. After operating intervention, recurring palsy of laryngeal nerve was the most common complication observed in 4.48% victims, hypocalcaemia was present in 3.39% victims and contagion of wound was also observed in 3.38% victims (Table-4). There was no intra-operative or post-operating mortality in this assessment work. There was no requirement of median sternotomy in any victim.

Table-IV: Difficulties After Surgical procedure

Difficulties	No of victims	Percentage
RLN Injury	4.0	4.490%
Hypocalcemia	3.0	3.370%
Wound Contagion	3.0	3.370%
Hematoma	2.0	2.240%
Post-Operative Bleeding	1.0	1.120%



DISCUSSION:

In this current assessment work, almost all the victims were present with complaints of dyspnea or sensation of choking. Headache, hoarseness in voice and dysphagia were stated by 1/3rd victims. Same findings were also the outcome of some other assessment works [8, 9, and 12] from various regions of the world but the incidence of this complication is much less as compared to the findings of this assessment work. The most possible cause of this fact was that majority of the victims of this assessment work were present with thyromegaly of larger size. There can be confirmation of the diagnosis by radiological assessments of chest, computed tomography of neck and chest, magnetic resonance imaging of mediastinum, thyroidal's ecotomography and scintigraphy of thyroidal. Among all these tools, MRI and CT scan are the most vital components of pre-operating assessment and planning of Surgical procedure particularly when there is suspicion of RSG [9-11]. RSG is commonly a symptomatic condition, with very low but definite danger of malignancy. Dyspnea & choking are the most common symptoms of the RSG [12, 13]. Majority of the victims suffering from RSG were present with more than fifty years of age and the prevalence of this complication was 3 times more in females as compared to males [14, 15]. The scan of thyroidal may be carried out for the exclusion of other diagnosis like lymphoma which displays the functioning thyroidal [6, 9, and 16]. We noted that 9.1% victims of this assessment work were present with the rhythm extension of thyroidal. The female victims outnumbered the male victims. The operating

intervention of this complication is possible through cervical incision and it has much acceptable danger of morbidity [17]. 18]. Hedayati stated the very high prevalence (30.0%) of RSG.

There are some difficulties associated with Surgical procedure as intra-thoracic hemorrhage, reappearance in un-resected tissues and recurring damage of laryngeal nerve. In this current assessment work, there was no requirement of median sternotomy in any victim and we performed thyroidalectomies through cervical incision, while Calo reported, in his assessment work from Italy, 3.280% sternotomy and 0.930% thoracotomy [16]. Calo [16] and Chow [19] stated the prevalence of recurring injury of laryngeal nerve in 2.20% and 2.70%, hypocalcaemia in 4.0% and 13.30%, formation of hematoma in 1.80% and 2.70% victims correspondingly. In similar manner, Ben, [12] from Israel, stated a proportion of sternotomy as 9.0%, 8.30% by Chow [19] from Hong Kong and 4.0% by Arici [20] from Turkey. The proportion of complication as reported in international literature is lower than 5.0% in hands of specialists [11, 13, 19, and 20]. In this assessment work, we discovered the recurring injury of laryngeal nerve (4.490%), hypocalcaemia in (3.370%), contagion of wound (3.370%) and formation of hematoma (2.240%) in our victims, this finding of is almost similar with the results of international literature. Approximately similar proportion of difficulties were also stated by the findings of some other assessment works [12, 21].

CONCLUSION:

Cervical approach is very easy way for its surgical procedure. Rhythm thyromegaly is very common complication in regions present with high occurrence of thyromegaly.

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