CASE REPORT

Axillary Endoscopic Thyroidectomy: A Case Report.

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Abstract :

Midline port employed for the endoscopic thyroidectomy through the thoracic ports increases the risk of keloid formation. The placement of axillary or the breast ports may remove those risks and these may provide even better cosmetic result. Recently, axillary (hybrid) endoscopic hemithyroidectomy was done in a 30 years old female patient who presented with a solitary thyroid nodule. Three ports were employed. The patient was fed on the first post operative day and was discharged on the 4th post-operative day without any complication. There was no previous report of axillary endoscopic thyroidectomy from Bangladesh. Axillary endoscopic thyroidectomy with a laparoscope appears safe, technically feasible and patient friendly modality of treatment for selected cases of thyroid swelling. Moreover, it provides better cosmetic outcome than the endoscopic thyroidectomy through the thoracic ports.

Introduction:

Solitary thyroid nodule is one of the common problems encountered in surgical practice. About 10-15% of the solitary thyroid nodules subsequently turned out to be thyroid carcinoma requiring total thyroidectomy but the vast majority are benign lesions[1]. Traditional thyroidectomy is effective, well-tolerated and safe. However, it requires a long transverse incision in front of the neck even for a small benign lesion. Diseases of the thyroid are more common in women, so avoidance of scar at the neck or any reduction in the size of the scar is highly desirable. After performing the first endoscopic thyroidectomy[2], through the thoracic route in March, 2007 the authors are regularly performing endoscopic thyroidectomy for selective group of patients. But the risk of keloid formation at the sternal scar is one of the concerns. Midline thoracic port can be avoided by placing an axillary port. There is no other report of endoscopic thyroidectomy via the axillary port from Bangladesh.

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Case report:

Mrs. B, a 30 year old female patient presented with five months history of swelling in front of the neck just left to the middle. She had history of weakness, insomnia and constipation for two months. On examination,

her pulse was 68 per minute and regular in rhythm. Neck examination revealed a firm oval nodule (3.0 × 2.0 cm in size) arising from the left lobe of thyroid. Rest of the gland was normal. Her serum TSH level was low (0.01 mIU/L) but serum free T3 and T4 were within normal limit. Ultrasonogram (USG) of the thyroid gland showed an ill defined mixed echogenic nodular lesion measuring about 33.4 × 17.7 mm having necrotic area within it. Fine Needle Aspiration Cytology (FNAC) revealed a nodular goiter. Thyroid scan revealed an autonomous functioning nodule in left lobe of thyroid. There was uptake of tracer in the rest of the gland. Serum antibodies to thyroglobulin and thyroid peroxidase were within normal limit. Other tests were also normal.

Axillary endoscopic left thyroid lobectomy was done. Under general anesthesia, the patient was placed supine with neck extended as it is done for open thyroidectomy. The left arm was extended and externally rotated to expose the left axilla. Three ports were used: one 10 mm in the left axilla for the telescope and one 5 mm right lateral port 5 cm lateral to the midline just below the right clavicle and another 5 mm port just at the left areolar margin. Initially, the sub- platismal plane was created with a pair of haemostat and Tubb's dilator, later with a harmonic scalpel. This space extended up to the hyoid bone. The investing layer of the cervical fascia was divided in the midline. Strap muscles were retracted laterally to expose the gland. The lower pole of the involved thyroid lobe was pushed up and all vessels were divided with the harmonic scalpel. The posterior aspect of the thyroid was mobilized entirely up to the superior pole vessels, which were also skeletonized and divided using the harmonic scalpel.

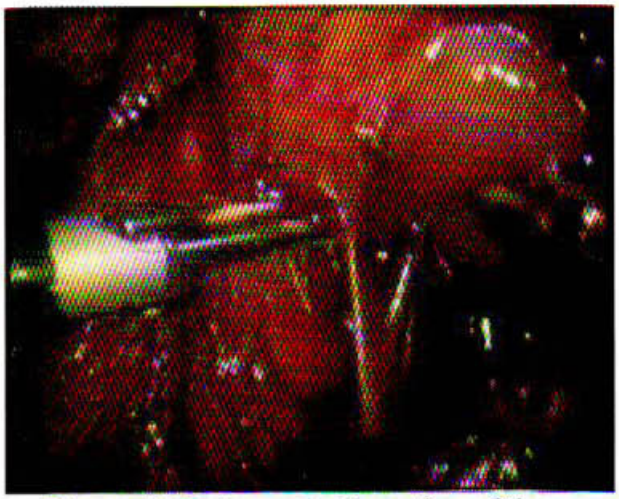

Figure-1: Endoscopic dissection of the thyroid gland.

Figure-2: Port sites shown on 4th post operative day.

Figure-3 : Patient on10th post-operative day.

Once the involved lobe was completely mobilized, the isthmus was divided near the right lobe. The specimen was removed in a plastic bag and through the 10 mm port which was stretched a bit to facilitate the delivery. The wound was irrigated with normal saline, haemostasis was checked and ports were closed after keeping a drain.

There was no injury to recurrent laryngeal nerve. Her post-operative course was uneventful and the post-operative cosmetic result was excellent, and the patient experienced minimal pain, hyperesthesia and paresthesia in the neck and chest.

Discussion:

Endoscopic thyroid lobectomy can be done through the cervical or non-cervical ports[3]. The non-cervical approach consists of access to the thyroid field through the axilla, anterior chest wall or the breast. Non cervical approach requires larger dissection but allow removal of relatively larger thyroid swellings. In non-cervical ports, the scars are usually hidden under the garments. But the scar develops at the midline thoracic port over the sternum may gradually become thick and more chance to form keloid. For this reason, here the authors wanted to avoid the midline thoracic port by using an axillary port. The small scar in the left axilla would be completely hidden when the arm is in its normal position. The sub- platismal plane is relatively avascular, so creation of the sub-platismal space did not pose much difficulty. Moreover, the use of the Tubb's dilator and the harmonic scalpel made it much easier. Carbon-di-oxide insufflation at 5-10 mm of Hg pressure was used for the flap lifting and maintaining the working space. Although, skin traction can be used[4], but it might give unnecessary scar in the neck. After lifting the flap, rest of the operation was essentially the same as the conventional open thyroid lobectomy.

With the experience in endoscopic thyroid surgery through the thoracic ports, the authors decided to apply axillary approach to the patients with solitary unilateral benign thyroid nodule. But utilized one right sub-clavicular and another circum-areolar ports. So it may be regarded as hybrid axillary approach.

The size of the thyroid nodule of the patient was about 3 cm. In most series, endoscopic thyroidectomy was done for the selected group of thyroid patients where the patients present with solitary nodule or solitary toxic nodule less than 3 cm in size and where there is no history of neck surgery, no history of neck irradiation and no evidence of thyroiditis[5]. Though it may be done in thyroid nodules with atypical or suspicious fine-needle biopsy (FNB) but most of the authors reserved this for benign cases[3].

Here, the operation took 120 minutes to complete. It is expected that operation time would reduce further with experience.

In this operation, the patient did not require any blood transfusion. The patient required only one dose of pethedine. The patient was very much satisfied with the post-operative cosmetic appearance.

Conclusion:

Endoscopic thyroid lobectomy through axillary approach for the solitary nodule of thyroid appears to be a technically feasible patient friendly modality. It is safe, effective technique in the hands of an appropriately trained surgeon.

The authors believe that the cosmetic result of axillary endoscopic thyroidectomy would be even better than that through the thoracic ports. However, long term follow up with a larger series is necessary to validate our present result.

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