MATHEWS

Case Report

Mathews Journal of Case Reports

Discharging Sinus as a Delayed Complication of Hemithyroidectomy: A Rare Case Report

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ABSTRACT

Thyroidectomy is known to have a few number of complications such as wound infection, haematoma, recurrent laryngeal nerve or superior laryngeal nerve palsy, hypothyroidism, hypocalcemia, hypertrophied scar formation, and these complications are even less in cases of hemi-thyroidectomy. We report a rare case of discharging skin sinus of the neck following right hemithyroidectomy which was reported after 12 months of surgery as a late complication. Ultrasonography revealed non fluid retaining sinus tract extending from skin in neck and going deep till the thyroid bed, towards right side at site of right lobe. Excision of sinus tract was done in toto and on incising the specimen, multiple knotted suture materials were found. Histopathology report showed fibrocollagenous stroma with non caseating granuloma with multinucleate giant cell (suture granuloma). The management and review of literature in related to case has been discussed in this case report.

Keywords: Discharging Sinus, Haematoma, Hemithyroidectomy

INTRODUCTION

Thyroid gland consists of two lobes and an isthmus and weighs 15 and 25 grams in adults. The normal size of the thyroid gland cannot be felt. Thyroid enlarges in size and is palpable in thyroid cancer, goiter, and hyperthyroidism, and in which patients have to undergo surgery. Major postoperative complications due to thyroidectomy include wound infection, bleeding, airway obstruction because of hematoma, hypocalcemia, hypothyroidism and thyroid storm, and recurrent laryngeal nerve palsy. However, sinus tract in neck skin scar post thyroidectomy is a rarest complication of thyroid surgery reported till date.

CASE REPORT

A 35-year-old woman, came in ENT outpatient department (OPD) with complaint of discharging sinus of neck after 12 months of hemithyroidectomy done 2 year back . Previous documents of surgery and other treatments were not available. On local examination of neck, pus discharging sinus on suture line was seen **(Figure 1)** showing sinus in the midline and the marked elliptical incison site along the thyroidectomy scar]. No palpable thyroid gland and neck lymph nodes were found. Initially patient was treated with antibiotics. Ultrasonography was done

Vol No: 07, Issue: 03

Received Date: May 04, 2022

Published Date: October 19, 2022

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Citation: Navjot Kaur, et al. (2022). Discharging Sinus as a Delayed Complication of Hemithyroidectomy: A Rare Case Report. Mathews J Case Rep. 7(3):75.

that revealed non fluid retaining sinus tract extending from neck in midline to deep towards right side at site of right lobe. Computed tomography was done which revealed evidence of linear tract with surrounding soft tissue in midline anterior to trachea with extension opening into skin and subcutaneous region and deep extension into right lobe thyroid bed, length of tract measured about 27 mm with thickness of 4.7 mm **(Figure 2)** CT showing linear tract with surrounding soft tissue anterior to trachea with extension to thyroid bed]. Surgical excision was planned for which routine blood investigation and admission to the ENT ward was done for further management. Antibiotics were started preoperatively. Surgery was started after painting and draping, and with all aseptic precautions. Methylene blue dye was injected into the sinus tract and an elliptical neck skin incision along the sinus opening was given. On dissection, a thick 3*1*0.5 cm tract was seen going medially and superiorly along the tracheo-esophageal groove, on the right side. It was dissected all around after identifying the recurrent laryngeal nerve and removed in toto. **(Figure 3)** showing intraoperative findings of sinus tract going supero-medially towards the thyroid bed in the tracheooseophageal groove; thick black arrow showing sinus tract; white arrow showing the deepest point of attachment just lateral to trachea; trachea marked by thin black arrow]. After excision, tract was slit opened and multiple sutures were seen inside it. [**FIGURE 4** showing excised specimen slit open to show the sutures inside the sinus tract]. Wound closure was done in layers. The procedure was uneventful and after extubation, patient was shifted to recovery room. The specimen was sent for histopathology examination that revealed fibrocollagenous stroma with non caseating granuloma with multinucleate giant cell (suture granuloma). She was discharged on the 2nd postoperative day and stitch removal doneon 7th post-operative day. She was followed up for 6 months and no evidence of recurrence was seen.

Figure 1

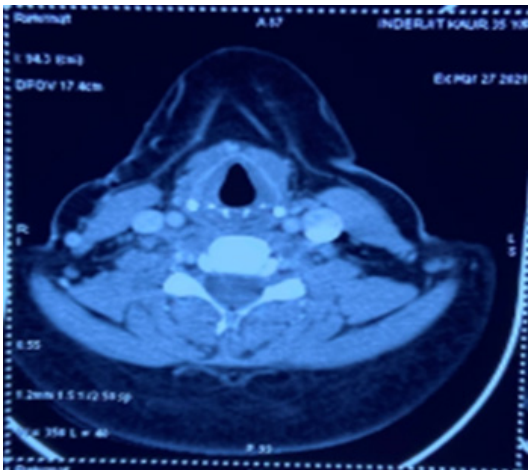

Figure 2

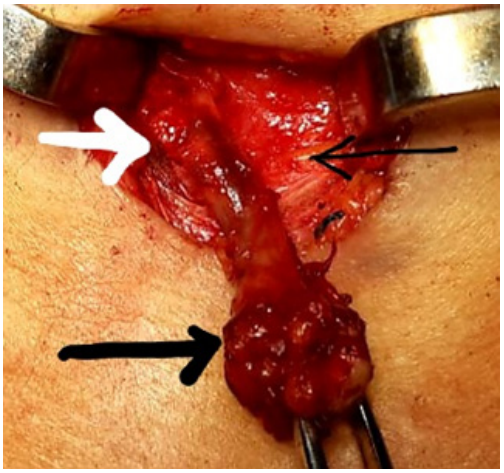

Figure 3

Figure 4

DISCUSSION

Sinus is defined as blind-ending tract extending from an epithelial lined surface into the surrounding tissue. Common causes of discharging neck sinus reported are developmental defects at birth such as thyroglossal cyst, branchial cyst, dermoid cyst, epidermal cyst, and others are post trauma and radiation, or post operative complication of neck surgery. Infective causes are actinomycosis, chronic osteomyelitis, TB, etc. Thyroidectomy is one of the most common surgical procedure done in anterior aspect of neck. Despite advancement and high experience with precision of thyroidectomy, postoperative complications cannot be ruled out. Skin sinus formation is an extremely rare post thyroidectomy complication. In 1949, Donato was first to report sinus tract formation post thyroidectomy [1]. In 1986, Vesely *et al.* reported that sinus tract formation after a subtotal thyroidectomy was rare complication [2] Infection, foreign body, surgery procedure, combined disease, and iatrogenic factors are associated skin sinus formation after thyroidectomy [3]. The surgical site infection after thyroidectomy ranges from 0.3% to 3.2% per the available literature [4]. The factors which resist infection are well-developed capsule, high iodine content, prosperous lymphatic, and vascular supply of thyroid [5,6]. Jin *et al*. reported that reason for sinus formation to be foreign body–suture reaction [7]. Total thyroidectomy may reduce the formation of skin sinus effectively. Thyroid swelling because of TB infection is very rare, and difficult to diagnosed because it resembles swelling of carcinoma, cold abscess, multi nodular goiter, rarely like acute abscess, thyroid nodule or lump. Certain tissues that are relatively resistant to TB such as heart, striated muscles, thyroid, and pancreas are rarely encountered [8]. Colloid material of thyroid gland having bactericidal and anti tubercular action is due to increase activity of phagocytes which is seen in hyperthyroid state [9]. There is no case report or literature about postoperative skin sinus because of TB infection. According to the literature, frequency of thyroid TB is 0.1%–0.4% in histologically diagnosed specimens. Thyroid function test may be within normal limits in few cases of thyroid swelling, but TB should be kept in mind in the differential diagnosis of nodular lesions of the thyroid. It is histology proved, many diseases may cause granulomatous inflammation such as granulomatous thyroiditis, fungal infection, TB, sarcoidosis, granulomatous vasculitis, and foreign body reaction. But caseating necrosis is seen only in tuberculous inflammation. In our case, the patient had one discharging pus sinus in neck just over the suture line operated for hemithyroidectomy. She managed surgically. We diagnosed that sinus was complication of surgery because of foreign body reaction of suture. It is a rarest case report of discharging neck sinus because of suture material collection and only two reports have been reported till date.

CONCLUSION

Skin sinus formation is a rare complication of thyroid surgery. Although rare, TB of thyroid gland should be included in differential diagnosis of thyroid swellings and postoperative sinus formation, especially in countries like India, where there is high prevalence of TB.

INFORMED CONSENT

Written informed consent was taken from patient to publish this case report.

ETHICAL APPROVAL

Ethical committee approval was taken from the AIMSR institutional committee of ethics.

SOURCE OF FUNDING

Funding source was self.

CONFLICT OF INTEREST

There was no conflict of interest.

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