

Case Report

Post thyroidectomy skin sinus formation

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ABSTRACT

Thyroid surgery is frequently complicated by hematoma collection, nerve injury, hypothyroidism and rarely infections but persistent discharge from the gland is unusual. We report a case of persistent sinus discharge from the thyroid of the patient who underwent thyroidectomy 5 years back. The patient had persistent discharge from the wound site along with recurrent swelling all the years afterward. Fine needle aspiration cytology proved it was recurrent papillary cancer. Swab culture from discharge showed no growth. Completion thyroidectomy with functional lymph node dissection was done and specimen was not harbouring any foreign body and biopsy showed recurrent papillary cancer. Although post thyroidectomy sinus discharges are usually secondary to foreign body or chronic inflammation like tuberculosis, the tumour itself can be considered as a cause.

Keywords: Post thyroidectomy, Sinus, Papillary cancer

INTRODUCTION

Thyroid gland is single bi-lobed gland located in the neck anterior to thyroid cartilage. It weighs 25-30 g in a normal individual. It is palpable in the presence of benign or malignant disease condition.¹⁻³ Thyroidectomy is usually done for malignant conditions and for hyperfunctioning glands. Thyroidectomy has immediate complications like hematoma, seroma, recurrent laryngeal nerve injury and late complications like hypocalcemia and hypothyroidism but rarely persistent sinus discharge.⁴⁻⁶

CASE REPORT

A 57 years old woman visited surgical referral clinic with anterior neck swelling and discharge of 5 years duration. 5 years back she was operated for thyroid cyst and intraoperative finding was fragile thyroid cystic mass and partial resection of the mass was done because of difficulty of the procedure to completely excise the mass. She never came back for follow up after surgery. Since

the operation she had discharge from the wound site and small anterior mass on the neck began to progressively enlarge to attain the current size upon presentation.

On evaluation she has 5 by 7 cm hard anterior neck mass which is attached to the underlying structure. There is a discharging sinus on the surgical wound site a little left to midline but on the previous incision site with a serous discharge and thickened skin around the sinus. No lymph nodes were palpated (Figure 1 and 2). She has no comorbid illness identified.

Fine needle aspiration cytology (FNAC) from the mass suggested papillary cancer. Neck CT scan showed left thyroid mass with multiple left cervical lymphadenopathies. Thyroid swab was taken from the sinus tract and there was no growth.

She was admitted with the diagnosis of recurrent papillary cancer and prepared for completion thyroidectomy. She was operated and total thyroidectomy and lateral neck dissection was done. No foreign body

was found on the tissue and on the sinus tract. The terminal end of the sinus lies on the middle of the gland and the tissue along with sinus tract was sent for biopsy. The surgery was uneventful (Figure 3). Biopsy result showed thyroid papillary cancer on the remnant gland and presence of granulation tissue otherwise no sign of tumour on the tract reported. Post-surgery she was followed for three months and haven't showed any recurrence of the sinus.



Figure 1: Discharging sinus on surgical wound site.



Figure 2: Discharging sinus post thyroidectomy closer view.

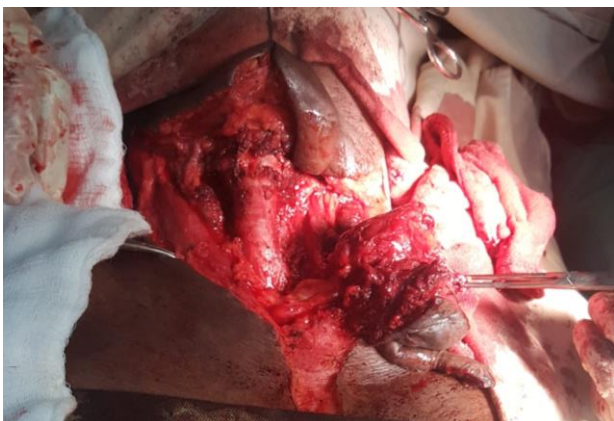


Figure 3: Intra operative view of the surgery.

DISCUSSION

Skin sinus formation is an extremely rare post thyroidectomy complication.^{1,5,6} Most common cause of discharging neck sinus is: developmental defects at birth (thyroglossal cyst, branchial cyst, dermoid cyst, epidermal cyst), tumour perforations and other fewer common causes are post trauma and radiation, or a complication of neck surgery.

Infective causes like actinomycosis, chronic osteomyelitis, TB, etc. are not unusual.² Thyroid gland and circumferential interspace infections are possible causes of skin sinus formation after thyroidectomy. Infections of the thyroid gland are not common because of its well-developed capsule, high iodine content of the gland, and rich vascular and lymphatic supply but with thyroidectomy protective effect of such factors will be weakened and this will predispose to persistent infection.^{2,5} Other factors related to sinus tract formation in thyroid are presence of foreign bodies like suture material used during operation which can harbour infections and iatrogenic factors like perioperative sterility techniques.^{1,4} On our patient though the culture showed no growth, there is still high chance of infection causing sinus tract formation because the procedure done on the patient during the first surgery was partial and this leaves some tissues behind which can be a focus for infection and the fact that the terminal end of the tract was also found on the gland itself might show possible origin of infection to be from the gland.

Lack of bacterial growth can be attributed to repeated antibiotic use even though we are not sure about repeated use of antibiotic in our patient.

There are also few reports on sinus tract formation directly arising due to the tumour extending to the skin prior to operation (extra thyroidal extension of thyroid cancer) or even after partial thyroidectomy.

Sometimes because of technical difficulty cancerous tissues can be left behind and this can recur later involving the skin.^{3,6} In our patient previous surgery was done for thyroid cyst but intraoperative report shows there was difficulty in operation and tissues were left behind and post-operative biopsy was not taken. Subsequent biopsy finding of papillary cancer might lead us to suspect prior diagnosis and potentially the tract formation might be attributed to the cancer itself though again biopsy doesn't reveal presence of cancerous tissue in the tract.

CONCLUSION

Despite common causes of sinus discharge in thyroid being foreign body and chronic inflammation, tumour can also present with sinus discharging in to the neck skin which warrant complete excision for tumour to avoid recurrence.

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