

Suture Granuloma 14 Years Following Partial Thyroidectomy Masquerading as Tuberculosis of The Sinus Tract

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ABSTRACT

Suture granuloma rarely occurs after thyroid surgery using non-absorbable sutures. We report the case of a 63-year-old female with a chronic discharging sinus in the anterior neck region. She had a history of subtotal thyroidectomy at the age of 45. The sinus had been excised and was reported as granulomatous lesions suggestive of tuberculosis. She was treated with anti-tuberculous medications, but unfortunately, she developed side effects. Histopathological slides were re-evaluated, which showed evidence of foreign material under polarized light; hence, the diagnosis was revised to suture granuloma. In conclusion, although sinus tract discharges are commonly attributed to tuberculosis, physicians should consider suture granuloma if they encounter a patient who has undergone a surgical procedure in the past.

Keywords: Suture granuloma, thyroidectomy, tuberculosis

Introduction

Suture granuloma is a rare complication that occurs following the use of a non-absorbable suture. It can complicate several different types of surgical procedures and has been reported to occur post brain surgery, post appendicectomy, post lung segmentectomy and post thyroidectomy. Suture granuloma following subtotal thyroidectomy has not been commonly documented in the literature. The present case highlights the dilemma that we faced before making a diagnosis of suture granuloma.

Case Presentation

A 63-year-old female presented with a 12-month history of intermittent discharge from a sinus on the right anterior aspect of the neck. There was no history of chronic cough or constitutional symptoms. She was diagnosed with thyrotoxicosis at the age of 42, for which she underwent subtotal thyroidectomy 3 years later followed by radioiodine therapy.

Four years ago, she developed discharging clear serous fluid from a sinus in the right anterior neck region. The remaining scar was well healed. A computed tomography sinogram showed a well-formed fibrous sinus tract in the subcutaneous tissue in the right anterior neck region with no evidence of fistula. The sinus tract was excised. Histopathological examination (HPE) revealed granulomatous lesion secondary to a foreign body (Figure 1-3).

The patient was well until 3 years later when she developed a small sub-centimeter nodule in the right anterior neck region 4 cm away from the scar. An ultrasound (Figure 4) revealed a well-defined heterogeneous lesion measuring 0.4×0.9 cm in size in the subcutaneous tissue, representing a well-formed fibrous tissue. The sinus tract was re-excised. HPE (Figure 5-6) showed granulomatous inflammation with no central caseation or foreign body.

The serous discharge from the lesion continued, and the patient was subsequently referred to the respiratory team with a possible diagnosis of tuberculosis of the sinus tract/tuberculous lymphadenitis. Upon review, a small sinus in the anterior aspect of the neck with a healed thyroidectomy scar was found. The sinus was located 2 cm away from the healed scar. The rest of the physical examination findings were normal. Chest x-ray findings were also normal.

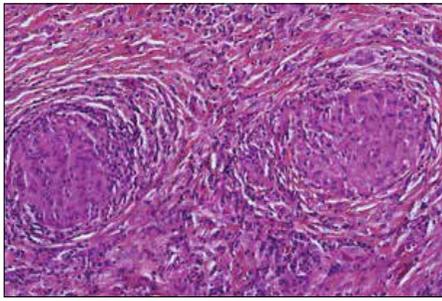


Figure 1. Histopathological examination of sinus tract under the magnification of 20 showing the presence of granuloma with no central caseation (arrow)

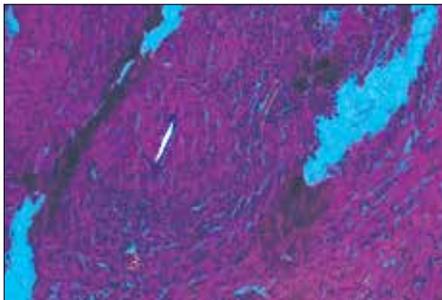


Figure 2. Histopathological examination under polarized light showing the presence of refractile materials (arrow)

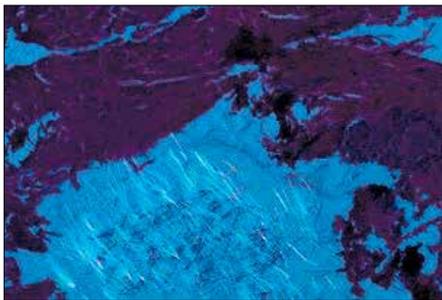


Figure 3. Histopathological examination under polarized light showing the presence of suture material within the granuloma (arrow)

The patient was empirically treated for tuberculosis of the sinus tract in view of HPE findings and the history of chronic discharging sinus. Further investigations for the evidence of active tuberculosis showed negative results; the Mantoux test result was negative (0 mm), and acid-fast bacilli direct stain as well as culture was negative.

Unfortunately, the patient had developed nausea and mild hepatitis due to anti-tuberculous (anti-TB) medication. Tissue slides were reviewed again, and deeper sections were made. Refractile body was found under polarized light microscopy. On periodic acid-Schiff, Ziehl-Nielsen, and Grocott stainings, no fungal organisms or acid-fast bacilli were detected. Thus, a diagnosis of suture granuloma was made. The patient had been receiving anti-TB medications for about a month before they were stopped, and

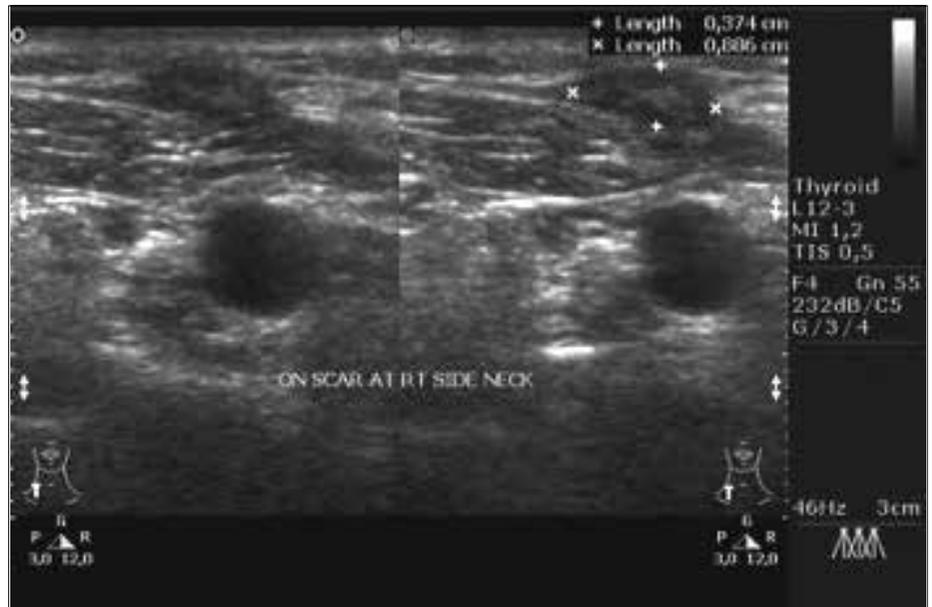


Figure 4. Ultrasound of the neck showing a well-defined heterogeneous lesion in the subcutaneous tissue measuring 0.4x0.9 cm (arrow)

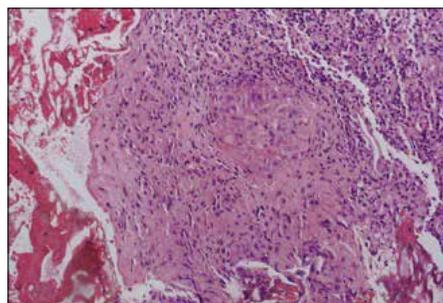


Figure 5. Histopathological examination showing poorly formed granuloma without central necrosis (arrow). Underlying stroma is composed of granulation tissue, which is heavily infiltrated by neutrophils, lymphocytes, and histiocytes

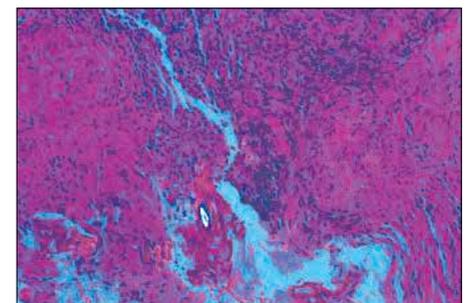


Figure 6. Histopathological examination under deeper sections with polarized light showing the presence of a refractile body (arrow)

fortunately, the discharge from the sinus tract stopped.

Discussion

Suture granuloma is the development of a granulomatous lesion following reaction to suture material. It can develop up to 56 months post thyroidectomy [1]; however, in our patient, the symptoms appeared 14 years after the surgery.

Suture granuloma occurs more commonly in association with non-absorbable sutures [2-3]. It can occur anywhere in the body and after a variety of surgeries. Shauffer et al. [4] reported the case of a patient with colonic carcinoma who developed suture granuloma resembling recurrent carcinoma at the anastomotic site of the colon. Fink et al. [5] reported suture granuloma simulating lung neoplasm occurring after segmentectomy. Epstein et al. [6] reported suture granuloma as an unusual cause of ring-enhancing lesion postoperatively in the brain.

Suture granuloma as in our patient is a rare complication post thyroidectomy. Langer et al. [1] reported foreign body granuloma resembling a suture in 4 out of 156 patients who developed palpable neck mass following thyroidectomy for thyroid cancer. The duration of development of granuloma in these patients ranged between 6 and 56 months. Augustin et al. [7] reported suture granuloma in the abdominal wall with intra-abdominal extension 12 years after open appendectomy. In our patient, granuloma was detected 14 years postoperatively.

Suture granuloma is treated by removing the sutures. Hocwald et al. [8] reported two cases with severe reaction to silk sutures after thyroid surgery; removal of the sutures along with granulomatous masses cured both the patients.

Suture granuloma can mimic tuberculous lymphadenitis. The initial decision to initiate anti-TB medication was based on the histopathological finding of a granuloma. In our

country, the commonest cause of extra-pulmonary tuberculosis is tuberculous lymphadenitis, and tuberculosis may have atypical presentations [9-13]. However, in our patient, culture was not positive for tuberculosis, and she did not have any constitutional symptoms. She also developed side effects to anti-TB medication. Retrospectively, her negative Mantoux test results and the absence of constitutional symptoms indicated that granuloma was indeed not tuberculosis related.

Further assessments were made on the tissue slides upon our request; deeper section cuts were investigated, and a refractile body, which we assumed to be suture material, was found. We have discontinued her anti-TB medications after 1 month of intensive treatment with these. She remained well after that.

Suture granuloma is not commonly seen in the respiratory clinic and can be misdiagnosed as tuberculous lymphadenitis. This case highlights the importance of considering suture granuloma as a differential diagnosis in post thyroidectomy patients who present with a lump in the neck.

Informed Consent: Written informed consent was obtained from patient who participated in this study.

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