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An Interesting Case of Multi Nodular Goitre - Dequervain Thyroiditis

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1. INTRODUCTION

Thyroiditis refers to the inflammation of the thyroid gland. “De quervain’s thyroiditis (subacute granulomatous thyroiditis) is a self-limiting inflammatory condition of the thyroid, often triggered by a viral infection.” This condition is typically preceded by an upper respiratory tract infection and is believed to result from an immune response triggered by a viral infection.

CASE CAPSULE

A 70-year-old female patient presented with complaints of swelling in the front of the right side of neck for the past 6months, which was insidious in onset, gradually progressive and was associated with occasional pain. she also had complaints of dysphagia for past 1month. She had lost significant amount of weight in last10 months [10kgs lost in 10months]. She had a history of fever with sore throat and cough 6 months back for which she treated in outside hospital. No history of difficulty in breathing. No history of voice change.no features of hyper or hypo thyroid symptoms. She is a known CVA patient, on treatment for the past 7 months. She attained menopause 24 years back.

On local examination, A 3x2cm swelling over the anterior aspect of the neck on the right side, which moves up on deglutition and does not move with protrusion of tongue, with its lower borders visible, no dilated veins noted over the swelling, no visible pulsation, nodular surface, firm in consistency, no warmth, tenderness present over the swelling, trachea is in midline, bilateral carotid pulse felt in normal position.

No gross cervical lymphadenopathy

A 2x1 cm left supraclavicular lymph node palpable. firm in consistency, nontender was noted .

THYROID FUNCTION TEST :

FREE T3 :2.64pg/ml

FREE T4 : 1.20ng/dL

TSH : 2.88mIU/ml

ULTRASOUND NECK

shows mildly enlarged right lobe of thyroid with well defined isoechoic nodule in mid pole of thyroid -TR 3

Few tiny nodules in left lobe of thyroid -TR 2

FNAC OF THE RIGHT LOBE OF THYROID shows FOLLICULAR NEOPLASM WITH ONCOCYTIC FEATURES,BETHESDA CATEGORY IV

FNAC OF LEFT SUPRA CLAVICULAR LYMPH NODE

revealed features suggestive of granulomatous inflammation

CT SCAN[PLAIN] OF THE NECK revealed two relatively well defined hypodense lesions noted in the right lobe of the thyroid, largest measuring 2.6x1.8x1.3cm, with no evidence of retrosternal extension, few mildly prominent lymph nodes noted in level 4 stations, largest measuring 1.2x7.4 mm in right level 4 station [TABLE / FIG. – 1].

Due to the patient's complaints of dysphagia and high-risk age, FNAC of the right thyroid lobe revealed a follicular neoplasm with oncocytic features (Bethesda Category IV). The patient underwent a total thyroidectomy under general anaesthesia on 28/12/2025, and samples were sent for histopathological examination (HPE) [TABLE / FIG. – 2]. Which revealed De Quervain's thyroiditis[sub acute granulomatous thyroiditis] with oncocytic adenoma. Post-procedure, as the patient remained clinically stable, NSAIDS and corticosteroids were not required. Thyroxine therapy was initiated. Patient is on regular follow up after discharge. suture removal done [TABLE / FIG. – 3]

Gross pathology thyroid gland measuring 7.5 x 3 x 0.5 cm. Cut surface shows a nodule measuring 1.2x 1 cm in upper pole of right lobe.

Microscopic description showed thyroid parenchyma with areas of fibrosis and plenty of non caseating granulomas [TABLE / FIG. – 4] formed by epithelioid and non epithelioid macrophages, numerous multinucleated langhans type and foreign body type giant cells, lymphocytes and plasma cells.

Follicular atrophy, folliculocentric colloid engulfment and destruction by giant cells are seen elsewhere. Good number of follicles show thick colloid and colloid vacuoles. It also showed a well encapsulated nodular lesion composed of micro follicles, macro follicles and solid sheets of oncocytic cells[[TABLE / FIG. – 5] with central round nuclei and abundant dense eosinophilic cytoplasm.

These was no evidence of pleomorphism / invasion into the capsule / blood vessels. At places, small colloid cyst and focal papillary epithelial hyperplasia also noted.

HPE revealed De Quervain's thyroiditis [subacute granulomatous thyroiditis] with oncocytic adenoma.

Stain for AFB found to be negative

2. DISCUSSION

The thyroid gland is subject to a wide range of pathological processes, including inflammatory disorders and neoplasms.

De Quervain's thyroiditis, also known as "subacute thyroiditis, granulomatous thyroiditis, viral thyroiditis". It is a "self-limiting inflammatory condition of the thyroid gland, typically following a viral infection".

The overall incidence of subacute thyroiditis is 4.9cases per 100000 / year

Various viruses, including mumps, coxsackie, influenza, adenoviruses, echoviruses, and more recently, SARS-cov-2, have been identified as triggers for this condition.

The highest incidence occurs between the ages of 30 and 50, with women being affected three times more often than men, particularly in middle-aged individuals.

The common clinical features pain, tenderness, fever, and symptoms of thyrotoxicosis, such as palpitations, anxiety, and weight loss, followed later by transient hypothyroidism.

The occurrence of a prior upper respiratory tract infection strengthens the proposed viral cause. Many patients exhibited elevated inflammatory markers, including erythrocyte sedimentation rate (ESR) and C-reactive protein (CRP), along with temporary thyrotoxicosis, characterized by low thyroid-stimulating hormone (TSH) and high free thyroxine (FT4) levels.

These findings are consistent with the inflammatory damage of the thyroid follicles, leading to the release of preformed thyroid hormones, followed by hypothyroidism as the gland recovers.

It must be differentiated from other causes of thyrotoxicosis, such as Graves' disease or toxic multinodular goiter. Absence of auto immune antibodies differentiates from auto immune thyroiditis.

In certain situations, FNAC results may raise suspicion for "papillary thyroid carcinoma," and the diagnosis must be confirmed through histopathological examination.

Imaging modalities such as thyroid ultrasonography and radionuclide scans were crucial in differentiating De Quervain's thyroiditis from other causes of thyrotoxicosis. The radionuclide scan demonstrates reduced iodine uptake, differentiating it from conditions like Graves' disease.

Nonsteroidal anti-inflammatory drugs (nsaids), especially aspirin, are frequently used as the primary treatment to alleviate pain and manage inflammation.

Corticosteroids such as prednisone may be started at a dose of 10–40 mg daily, with a gradual decrease in dosage over several weeks, depending on the improvement in symptoms and ESR levels.

Beta blockers are used to manage the symptoms of thyrotoxicosis, and thyroid function should be monitored every 2 to 4 weeks.

Recurrences occur in a small percentage of patients, while re-exacerbations are rare. The overall prognosis is generally favourable, with most patients reaching euthyroidism within weeks to months. However, there is a risk of developing transient or prolonged hypothyroidism, which may require thyroid hormone replacement in some cases.

Despite the self-limiting nature of De Quervain's thyroiditis, early recognition and appropriate symptomatic management are essential to alleviate discomfort and prevent unnecessary interventions.

Future studies should focus on identifying specific viral triggers, understanding the genetic predisposition, and evaluating novel therapeutic options to optimize patient care.

The role of long-term thyroid function monitoring should also be further explored to determine the true incidence of persistent hypothyroidism following recovery.

FIG. – 1 – CT Neck Plain showing enlarged right lobe of thyroid.

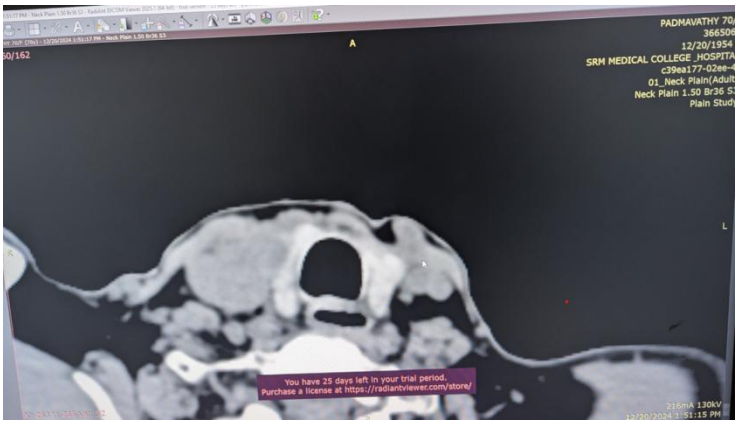


FIG. – 2 TOTAL THYROIDECTOMY SPECIMEN SHOWING ENLARGED MULTINODULAR RIGHT LOBE OF THYROID

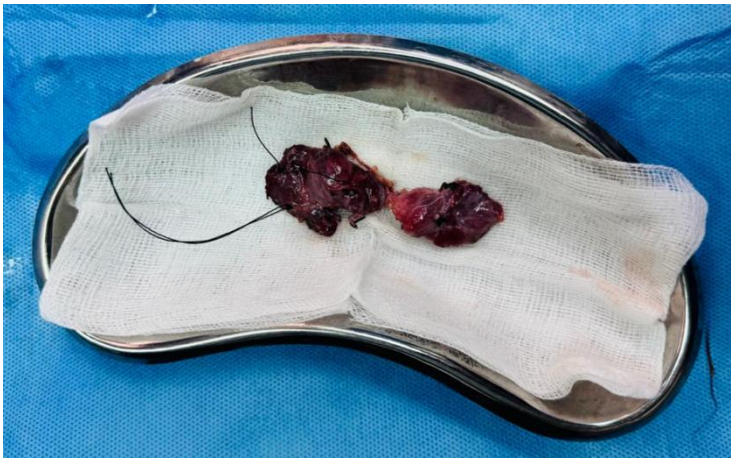


FIG. – 3 POST OPERATIVE WOUND PICTURE AFTER SUTURE REMOVAL

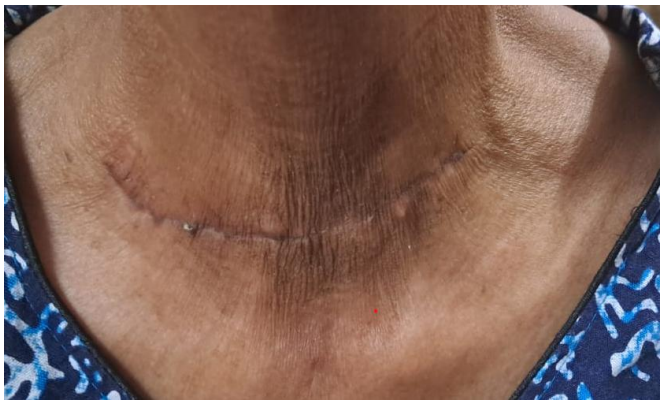


FIG. – 4- NON CASEATING GRANULOMA(H&E-400X)

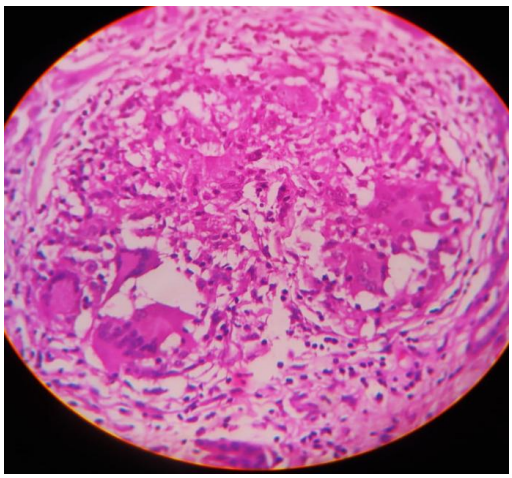
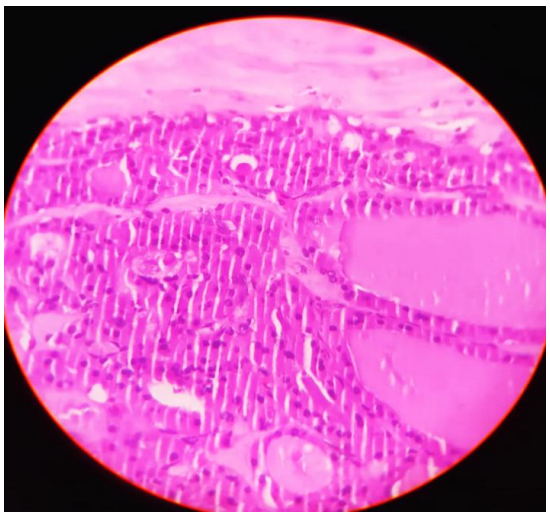


FIG. – 5- ONCOCYTIC CELLS(H&E-400X)



3. CONCLUSION

In conclusion, De Quervain's thyroiditis is a significant clinical condition that demands prompt diagnosis and proper management.

Although most cases resolve on their own, treatment is generally conservative. Close monitoring is essential to identify and

address potential complications.

Some patients may require long-term thyroid hormone replacement due to prolonged hypothyroidism following the illness.

Additional research is necessary to enhance our understanding of the pathophysiology and to refine treatment approaches for those affected persons

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