Subacute Granulomatous Thyroiditis (de Quervain)

Subacute Granulomatous Thyroiditis (de Quervain, Giant Cell Thyroiditis) may occur after a viral upper respiratory infection. It presents with a tender thyroid gland with findings of hyperthyroidism and hypothyroidism depending on the timeline. Diagnostic workup begins with thyroid function tests (TFTs). ESR is commonly elevated and radioactive iodine uptake will be decreased. On histology of a thyroid gland biopsy, multinucleated giant cells are hallmark. Management strategies include beta blockers, NSAIDs, and avoiding antithyroid drugs (e.g. methimazole).

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Etiology

Viral Upper Respiratory Infection
Upper Respiratory Tract Virus
Subacute granulomatous thyroiditis is often self-limiting and can result following a flu-like illness (e.g. viral infection).

Presentation

Tender Thyroid
Tenderizer Thyroid
Subacute granulomatous thyroiditis can present with jaw pain along with a tender thyroid. This is unique as most thyroid conditions involve a non-tender thyroid.

Hyperthyroidism and Hypothyroidism
Hiker-thigh-droid and Hippo-thigh-droid
This disease may present as hyperthyroidism early in the course, proceeding to euthyroidism, and then becoming hypothyroidism. The hypothyroidism can be permanent in ~15% of cases.

Diagnosis

Thyroid Function Tests
Thigh-droid Functioning
Thyroid function tests (TFTs) should be performed to evaluate for T3/T4 and TSH levels. In the thyrotoxic phase, there are elevated levels of T3/T4 and thyroglobulin, with decreased levels of TSH. The TFTs change in the hypothyroid phase, which has decreased T3/T4 and increased TSH.

Elevated ESR
Up-arrow ESR Test-tubes
Erythrocyte sedimentation rate (ESR) is a common inflammatory marker. ESR is often elevated in these patients.

Decreased Radioactive Iodine Uptake (RAIU)
Down-arrow Radioactive-guy Uptaking
With a radioiodine uptake study, there is decreased uptake (<5%) in those with subacute thyroiditis. This is due to follicular cell damage being unable to take up the iodine. Also, as TSH secretion is initially suppressed during the thyrotoxicosis phase, this also impacts iodine uptake. Radioiodine uptake normalizes once TSH levels begin to rise during the hypothyroid phase.

Multinucleated Giant Cells
Nuclear Giant-shell
On histology, granulomatous inflammation along with multinucleated giant cells is hallmark.

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Management

Beta Blockers

Beta-fish with Blocks

In the thyrotoxic phase of subacute thyroiditis, beta-blockers can control the symptoms of hyperthyroidism (e.g. palpitations or anxiety).

NSAIDs

N-sad

NSAIDs are helpful for pain management.

Avoid Antithyroid Drugs

Avoid-sign Ant-tie-thigh-droid Pill-bottle

Antithyroid drugs (e.g. methimazole) are contraindicated and should not be administered during the thyrotoxic phase of subacute thyroiditis. As the thyroid tries to recover its follicular cells, ATDs can actually inhibit thyroid hormone synthesis.

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