Case Study

DE QUERVAIN'S THYROIDITIS – DON'T MISS IT IN CHILDREN

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Abstract:

We report a case of 9 year old girl with De Quervain thyroiditis, a very rare entity with painful enlargement of the thyroid gland. It is a self limiting disease of presumed viral etiology that is extremely uncommon in children.

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Introduction:

De Quervain thyroiditis, the most common reason for thyroid pain is a rare self-limiting disease, especially in children. Thyroid enlargement in children is most often due to chronic lymphocytic thyroiditis (Hashimoto's disease) and pain and tenderness usually due to acute suppurative thyroiditis(AST). It is a benign self-limiting condition and most patients only need adequate pain relief and regular follow up till complete resolution. (1, 2)

Case report:

A 9 year old girl presented with painful swelling in the front of the neck of 2 months duration. She had a preceding history of fever and sore throat for 2 weeks prior to the appearance of swelling. Her growth and development were appropriate for age and she was immunization history was up-to-date. General physical examination was unremarkable and her vital signs were normal. She was afebrile and there was no pallor, jaundice and lymphadenopathy present.

Local examination revealed a diffusely enlarged thyroid gland which was tender on palpation.

Laboratory investigations revealed Hemoglobin 9.8g/dl, Total leucocyte count of 9800 cells/mm3, Differential count showed 58% lymphocytes, Erythrocyte sedimentation rate of 18mm/hr, CRP was less than 6mcg/dl(negative), Thyroid function tests- serum TSH 100mcIU/ml(0.27 to 4.2), T3 1.02(0.8-2)ng/ml, T4 2.75(5.1-14.1)mcg/dl.

Ultrasonography of thyroid showed diffuse heterogeneous echogenicity of both lobes of thyroid with no cervical lymphadenopathy.

Fine needle aspiration cytology (FNAC) showed follicular cells in sheets and clusters, intermixed with polymorphous population of lymphocytes. There were many multinucleated giant cells and epitheloid granulomas. Features were suggestive of De Quervain's thyroiditis- Bethesda category II.

The child was treated with NSAIDS and followed up. Pain relief was achieved almost immediately with complete remission of pain and tenderness in 1 week. The swelling resolved in 8 weeks and this was confirmed radiologically on ultrasonography . On follow-up 12 weeks later, the patient continues to remained euthyroidat 12 weeks.

Discussion:

Variously named DeQuervain/granulomatous, viral thyroiditis and Sub acute thyroiditis (SAT) based on its pathology, possible etiology and its typical clinical course respectively, it is an uncommon entity(3).

First described by pathologist De quervain (1904), this entity with thyroid granulomas is a self limiting disorder, that can present in acute or subacute form and its recovery is invariably complete.(3,4)

With a reported incidence of less than 5 in 100,000 in adults, it is extremely rare in pediatrics with no reported cases before 1960's and only handful of cases reported to date.(4,5)Although SAT is the most common cause of thyroid pain.(4,5)as many as one third of cases be asymptomatic.(4)

Despite its structural simplicity, the thyroid gland can give rise to a variety of lesions presenting as gland enlargement.(4)SAT comprises just a miniscule proportion of inflammatory thyroid lesions.(5)With a high rate of diagnostic errors (5), it can be mistaken for Acute Suppurative Thyroiditis, specially in children(1).

The exact etiology of SAT is unknown and a cause can rarely be established. Incidence following upper respiratory tract infections or sore throats has suggested a viral infection. Suggestions of bacterial infection have been disproven, autoimmune reaction unlikely though a genetic association is plausible. (1, 5)

The clinical presentation and laboratory results are the basis for the diagnosis, and histopathology and cytological diagnosis are rarely required. (4)

Although there can be considerable overlap between various forms of thyroiditis, the approach to diagnosis is by clinical features, mainly the presence of pain and tenderness.(7)Anterior neck pain in the area of the thyroid bed is the cardinal feature and often prompts patients to see the doctor.(8)

SAT includes a prodrome followed by a tender, diffuse goiter with a progressive "march" of tenderness across the gland. (5)Patients may be euthyroid, hyperthyroid, or hypothyroid, or may evolve from one to another over time.(7)Transient hyperthyroidism lasting 3-6 weeks is seen in one half of affected individuals. (7)In few weeks, about 20% of them transform to a hypothyroid phase that mostly lasts a couple of months. (8)

Histopathologically, the most distinctive feature is the granuloma, consisting of giant cells clustered about foci of degenerating thyroid follicles.(1, 6)

Treatment is directed at symptomatic relief and restoration of euthyroid state. (7) Treatment with high-dose acetylsalicylic acid or nonsteroidal anti-inflammatory drugs is preferred.(8) If the neck pain is not improved after four days, or if the patient presents with severe neck pain, then corticosteroids can be considered.(8,9)There is no role for antibiotics in the treatment of subacute thyroiditis, and referral for thyroidectomy is not warranted.(8)

Subacute thyroiditis is self-limiting and the entire clinical course lasts between weeks to six months. Recurrence rates are reported to be about 4% and permanent hypothyroidism may occur in 15% (5, 9) of cases. It usually takes about 4 weeks for the resolution of the thyroid enlargement. (5)

Conclusion:

De Quervain's thyroiditis, though extremely rare,should be kept in mind when evaluating children with anterior neck pain. Management should focus on amelioration of symptoms and retaining euthyroid state. Follow up is suggested for detecting recurrence and hypothyroidism.

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