

There was a statically significant association between Graves' disease and thyroid radiological features, where nodules presented in 47.4% of Graves' cases ($P < 0.001$), vascularity was increased in 82.4% of Graves' cases ($P < 0.001$), and thyroid scan showed an increase of the uptake in 97.7% of Graves' disease cases ($P < 0.001$). From biochemical features, TSH receptor autoantibodies (TRAb) were significantly associated with Graves' disease ($P = 0.02$) which was increasing in 76.3% of Graves' disease cases.

Conclusion(s): Most of the patients admitted to SQUH were young aged females in Muscat and North Al Batinah with increasing utility of carbimazole while surgery use was decline. The investigatory findings are important for public health for early detection and early management of Graves' disease as well as minimizing morbidity and mortality rate associated with it.

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CATEGORY: THYROID DISORDERS

FORMAT: EPOSTER PRESENTATION

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Toxic Multinodular Goiter: Epidemiological, Clinical, Biochemical and Radiological Features



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Objective(s): Toxic multinodular goiter is one of the important causes for retrogradation of patients' health. For this reason, the purpose of this study is to identify the incidence of toxic multinodular in patients admitted to Sultan Qaboos University Hospital (SQUH) and to describe epidemiological, clinical, biochemical and radiological characteristics for toxic multinodular goiter patients.

Material(s) and Method(s): A retrospective study was conducted among Omani patients and the collected data were searched for all patients who had abnormal thyroid function test and admitted to thyroid clinic at SQUH, it included patients age above 20 with abnormal thyroid scan or patients with goiter or symptoms of hyperthyroidism at time of clinical presentation. However, we excluded pregnant women, thyroid cancer patients, and those who present with hypothyroidism.

Result(s): A total of 66 patients were included base on the diagnosis of TMG on biochemical, thyroid ultrasound scan and thyroid uptake scan for 930 patients demonstrated in SQUH at specified duration. We discovered that the incidence rate of toxic multinodular goiter was 71 new cases per 1000 people done thyroid uptake scan. The male to female ratio was 1:12 with mean and median age 50 ($SD \pm 14.3$), the disease was founded in females with (92.4%) of total patients. The most reported symptom was palpitations and the most sign was goiter and tenderness. The presence of thyroid nodules was founded in (97%) of patients with TMG. In thyroid scintigraphy, (50%) of a total of 66 patients were founded to have normal Tc-99 uptake. Thyroid hormones test showed that the majority of patients (51.5%) appeared with normal level of FT4 and (68.2%) had suppressed in their TSH level. In pathological findings, (79.5%) of 39 patients who done FNA were found to be benign with Bethesda II classifications. the managements offer to our patients was carbimazole with (47%), radioactive iodine treatment was given to (13.6%) of patients and surgery was proceed in (15.2%) of patients.

Conclusion(s): Toxic multinodular goiter is a common thyroid disorder in our environment, presenting with hyperthyroidism and neck swelling. Our study showed that TMG IS more common in females compared to males with palpitation as the most common clinical presentation followed by multiple nodules. The treatment offered to our patients was carbimazole as first line, while radiotherapy was the most common permanent cure. Surgery was performed in patients with huge neck swelling and obstructive symptoms.

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Thyroid Function Screening in First and Second-Degree Healthy Asymptomatic Relatives of Hashimoto's Thyroiditis Patients



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Background: The evidence to support thyroid function screening in relatives of patients with Hashimoto's thyroiditis is insufficient. Our objective was the thyroid function screening and prediction in first- and second-degree relatives (FDRs and SDRs) of patients with Hashimoto's thyroiditis.

Material(s) and Method(s): A prospective evaluation of thyroid function of 346 healthy asymptomatic relatives of 97 patients with Hashimoto's thyroiditis over 27 months, after exclusion of any individual with any condition which could interfere with thyroid function. They were evaluated by TSH and thyroid ultrasound at enrollment. All enrolled individuals were scheduled for re-testing by TSH after three months to confirm the final diagnosis. We scheduled additional TSH testing at six, 12, and 18 months. The ultrasound examination was scheduled at six, 12, and 18 months.

Thyroid ultrasound was done to evaluate any single or multiple nodules, and any suggestive ultrasound features of possible Hashimoto's thyroiditis which include (diffusely enlarged thyroid gland with heterogeneous echotexture, giraffe pattern or micronodular appearance (1-6 mm), and color Doppler study to show the patterns of the vascular flow).

Individuals with abnormal TSH levels were subjected to further evaluation of thyroid autoimmune antibodies. The study cohort was categorized into normal thyroid function, subclinical, and overt thyroid dysfunction. We used the Thyroid Event Amsterdam (THEA) score to predict the future reversion for individuals with normal and subclinical thyroid function to overt dysfunction. The categories of the THEA score are four: low THEA score (0 – 7) in which no intervention should be done, medium THEA score (8 – 10) which necessitate annual thyroid function screening, high THEA score (11 – 15) and very high THEA score (16 – 18) in which treatment is recommended.

Result(s): More than 75% of the cohort were married adult non-smoker women. Neither the initial thyroid function nor the demographic parameters could predict the future thyroid function in the study group. Aberrant thyroid tests were encountered in 43% of

the cohort (n=150), of whom 74% had overt thyroid dysfunction (n=111). The family clustering of autoimmune thyroid disease (AITD) was observed in 16% of the cohort (n=56). The overall THEA score was low (5.00 ± 0.44), with only four individuals with sub-clinical hypothyroidism were initiated on treatment according to their high THEA score.

Conclusion(s): The thyroid function screening and thyroid auto-antibodies in the asymptomatic healthy relatives of patients with Hashimoto's thyroiditis could help to diagnose an overt thyroid dysfunction in about one-third of them. The thyroid function test and THEA score could arbitrarily predict the five-year risk of developing apparent dysfunction status. The familial clustering of thyroid disease was ensured in more than 43% of high-risk relatives.

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Subacute Thyroiditis Post Covid -19 Vaccinations



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Background: Subacute thyroiditis is being frequently seen after Covid infection as the cases of many other viral infections. Patients classically complain of symptoms of thyrotoxicosis mainly palpitations and sweating but with associated tenderness in neck with or without fever. Subacute thyroiditis has seldom been seen after viral vaccinations. We present a case series of subacute thyroiditis which presented after administration of the COVID-19 vaccine.

Material(s) and Method(s): Case 1: A 28-year-old female without previous medical problems, presented to the clinic for sore throat, palpitations and dizziness. No recent history of any upper respiratory tract infection or pregnancy. The patient received her second dose of Pfizer/BioNTech mRNA vaccine for COVID-19 2 weeks earlier. Thyroid function testing was done and revealed TSH 0.001, fT4 3.29, fT3 6.8. Her TPO antibody, thyroglobulin antibodies and Trab were negative. Technetium-99m pertechnetate scan revealed diffuse thyroiditis. The patient was prescribed prednisone 20 mg daily. She reports rapid improvement of her symptoms and prednisone treatment was given for 3 weeks then stopped. Repeated tests showed normal TSH 10 days after stopping steroids.

Case 2: A 49-year-old female with the history of V Leiden mutation and repetitive abortions presented to the clinics on May 25, 2021 for the complaint of unintentional weight loss of 6 kg in 20 days and palpitations, preceded by fever and neck pain at the end of April. The patient noted that she was vaccinated with her second dose of Sinopharm vaccine on the 6th of April 2021. Thyroid function test revealed a thyrotoxic profile TSH 0.005, fT4: 42, fT3 9.02. With negative thyroglobulin antibody, TRAb. CRP 60. Thyroid Ultrasound showed a diffuse heterogeneous echotexture of the thyroid. A fever work up was done to rule out other infectious causes including Salmonella and Brucella, all were negative. The patient was prescribed prednisone 40 mg daily and propranolol 10 three times daily, gradually tapered over one month. Her symptoms resolved and her follow up tests showed normal tsh and CRP

Result(s): Discussion: Subacute thyroiditis is usually associated with upper respiratory tract infections including Covid -19 infection. This can be explained by T cells cross reacting between the

virus and the thyroid cells. Moreover, De Quervain thyroiditis following viral vaccines has been reported influenza vaccines. Thyroiditis has not been described until now as a frequent side effect of Covid vaccine. So we presented the cases of a 28 and 49-year-old females who has presented with cases of subacute thyroiditis after receiving respectively the Pfizer mRNA vaccine and Sinopharm vaccine for COVID-19.

Conclusion(s): Conclusion: Subacute thyroiditis after Covid-19 vaccine is rare but may be underreported. Further investigations are required to evaluate predisposing factors to De Quervain thyroiditis following Covid-19 vaccine.

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Subacute Thyroiditis: Epidemiological, Clinical, Biochemical and Radiological Features in Sultan Qaboos University Hospital, Muscat, Oman



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Background: Subacute thyroiditis is an inflammatory disease of the thyroid that is usually caused by a viral infection, this study is aimed to estimate the incidence of subacute thyroiditis in patients at Sultan Qaboos University Hospital and to determine the epidemiological, clinical, biochemical, and radiological characteristics as well as the treatment choices that were employed to the patients, this study hopes to improve the patients care and add to the body of knowledge.

Material(s) and Method(s): This is a retrospective study in which the medical records of 150 patients admitted to the radiology department who were diagnosed with subacute thyroiditis between January 2015 to January 2020 were reviewed. SPSS program was used for the descriptive analysis.

Result(s): The Incidence rate of subacute thyroiditis was 115/1000 population who underwent thyroid uptake scan, mean age was 41.7 ± 14.6 ; 71% were females. The female to male ratio was 2.5:1, 65% of the patients were middle-aged at the time of presentation. Palpitation was present in 55% of the patients followed by goiter and tenderness in 29% of the patients. Mean free thyroxine (FT4) was 35.4 ± 21.7 and mean of thyroid-stimulating hormone (TSH) was 0.3 ± 0.8 , 62% of the patients had high erythrocyte sedimentation rate (ESR) and 63% had elevated C-reactive protein (CRP). Thyroid ultrasound revealed 56% of the patients had thyroid nodules, the majority had normal vascularity in color doppler ultrasound. 82% of patients had low uptake in thyroid scintigraphy. β -blockers were prescribed for 47% of the patients and nonsteroidal anti-inflammatory drugs (NSAIDs) were prescribed for 37% of the patients, 20% were not taking any medication.

Conclusion(s): This study showed that females are more susceptible to subacute thyroiditis, the most common presenting symptom in subacute thyroiditis patients is palpitation. Biochemical tests revealed an elevation in FT4 levels and suppression in TSH levels in majority of the patients. Nodules were the most prominent feature in thyroid ultrasound. β -blockers are widely used in managing subacute thyroiditis.

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