the emergency department after being found on the floor surrounded by multiple open alcohol bottles. He was a poor historian but reported a previous fall. Vitals on presentation were BP 109/70, HR 110, RR 22, SpO2 of 90% on room air, and rectal temperature of 97.6 F. The remainder of the exam revealed he was alert and oriented to self and place but not time; his neck was supple and no thyroid masses were palpated; he had tremors, head swelling and abdominal tenderness. Labs demonstrated CPK 1300 U/L, Creatinine 1.0 mg/dl, glucose 120 mg/dl, and sodium 142 mmol; urine toxicology was negative and alcohol level was not elevated. He was admitted and treated for suspected alcohol withdrawal and rhabdomyolysis with intravenous fluids and benzodiazepines. However, his mental status continued to decline; he became obtunded and was hypothermic and bradycardic. Thyroid function tests (TFT) revealed TSH 98.9 uIU/mL with free T4 0.27 ng/dl. He was subsequently managed for myxedema coma and given IV levothyroxine and hydrocortisone. He improved clinically after initiation of therapy and was transitioned to oral thyroid replacement. The patient was pending discharge to sub-acute rehab however his hospital course was later complicated by aspiration pneumonia.

**Discussion:** Myxedema coma is a medical emergency as severe hypothyroidism leads to slowed functioning of multiple organs. Risk factors include female gender and age above 60 years; it is seen more commonly in colder months. Symptoms include decreased mental status, feelings of cold and tongue swelling while physical exam may reveal hypothermia, hypoventilation, bradycardia, an enlarged goiter, thinning hair and non-pitting edema. Lab studies usually reveal an elevated TSH with low T4; there may also be hyponatremia and hypoglycemia. Myxedema coma is a clinical and laboratory diagnosis; if there is clinical suspicion for myxedema coma, IV thyroid replacement should be administered promptly without waiting for lab results. Stress-dose steroids should also be administered and TFTs should be monitored every 48 hours. Clinical symptoms usually improve over one week of treatment. Mortality of myxedema coma is reported to be up to 40% in hospitalized patients. Our patient’s presentation of suspected alcohol withdrawal masked his diagnosis of myxedema coma.

**Conclusion:** Physicians should keep myxedema coma in the differential for patients who present with suspected alcohol withdrawal and develop worsening mental status and hypothermia.

**Reference:** DynaMed. (2020, October 22). Myxedema Coma. Retrieved October 23, 2020, from https://www-dynamned-com.arktos.nyit.edu/topics/dmp-AN-T1584563697784.

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**Thyroid**

**THYROID DISORDERS CASE REPORT**

**Myxedema Coma: Improving Outcomes With Prompt Recognition and Therapy**

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**Background:** Myxedema coma, a misnomer for severe hypothyroidism, is a rare endocrine emergency with an incidence of 1.08 cases per million people per year and a high mortality rate ranging from 30-50%. A delay in diagnosis and treatment worsens the prognosis and increases morbidity and mortality. Delayed management often leads to decompensation, presenting as uncontrolled persistent hypothermia, severe electrolyte derangements, and a potential for ventilator requirement needing ICU care. We present a patient in hypothyroid crisis who was promptly managed in a non-ICU setting who demonstrated a relatively early improvement in vital signs, thyroid lab values, and return to baseline mental status.

**Clinical Case:** A 75-year-old female with past medical history of hypothyroidism, atrial fibrillation, hypertension, coronary artery disease, depression, tardive dyskinesia, and dementia presented to the hospital in the month of December due to confusion after a mechanical fall that resulted in a head laceration requiring multiple stitches. Trauma work up included a CT scan of the head that was negative. On presentation, patient was also hypothermic, bradycardic, hypotensive, and lethargic with an altered mental status. Sepsis work up was negative. TSH was checked on day of admission and found to be significantly elevated to > 100 mcIU/mL, consistent with severe hypothyroidism. Free T4 and total T3 levels were low. Patient was immediately given intravenous levothyroxine 300 mcg followed by oral levothyroxine 125 mcg daily. In addition, intravenous hydrocortisone 100 mg every 8 hours was started until adrenal insufficiency was ruled out with a normal cortisol level. Upon discussion with family, it was learned that patient had not been taking her home medications indicating non-compliance to thyroid replacement therapy as the etiology for her hypothyroid crisis. Within a day of initiating therapy, TSH levels drastically improved with a reduction by 50%. Bradycardia, hypotension, and hypothermia resolved as well. In three days, patient’s mental status improved back to baseline and TSH, free T4, and total T3 continued to normalize.

**Conclusion:** This case demonstrates how prompt recognition of hypothyroid crisis and immediate therapy can lead to early improvement in outcomes such as reversibility of mental status, normalization of vital signs and lab values, prevention of escalation of care to an ICU setting, and overall morbidity and mortality.

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**Thyroid**

**THYROID DISORDERS CASE REPORT**

**New Onset Recurrent Acute Infectious Thyroiditis in an Adult Patient**

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**Introduction:** Acute infectious thyroiditis can be seen in patients with congenital abnormalities of the piriform sinus, underlying autoimmune disease, or the immunocompromised. In most patients, an upper respiratory tract infection precedes the development of the neck abscess. Case description: The patient is a 39-year-old Caucasian woman with history of Hidradenitis suppurativa (HS) and thrombocytopenia who presented to the hospital with sore throat, dysphagia and left-sided neck swelling. She was recently started on Humira for HS. Review of systems was significant for heat intolerance, weight loss, palpitations and
panic attacks. Family history was positive for Hashimoto’s thyroiditis. Initial lab evaluation was significant for elevated erythrocyte sedimentation rate (ESR), C-reactive protein (CRP), mildly elevated free T4 (FT4) with suppressed thyroid stimulating hormone (TSH). She was found to have a nearly 6 cm left-sided thyroid abscess, which was eventually drained. Contrast CT imaging showed multiple left laryngeal space abscesses with extension to the left thyroid gland. TSH gradually increased over two months to nearly 4 times upper limit of normal accompanied by low normal FT4. TSI and TPO antibodies were negative. Clinical course was complicated by recurrent abscesses which required percutaneous drainage and intravenous antibiotics.

Discussion: Acute infectious thyroiditis is extremely rare disorder of the thyroid gland in adults. Most patients present with recurrent abscesses early during childhood. Imaging studies such as CT scan, preferred over MRI, and barium swallow can show a fistula connecting the piriform sinus and left lobe of the thyroid gland. Treatment includes needle aspiration, followed by drainage and IV antibiotic therapy. Surgical excision of the entire sinus tract and the involved area of the thyroid gland is the best method to achieve definitive cure.

Conclusion: Lower left-sided thyroid abscess extending from the pyriform fossa to the thyroid bed should raise the suspicion for underlying third or fourth branchial fistula. Most cases present during childhood, but one third of cases occur in adults. Surgical excision after confirming the presence of a fistulous tract with imaging is the treatment of choice.

Thyroid
THYROID DISORDERS CASE REPORT
Non-MAS Non-APS Rare Case: Co-Occurrence of Graves’ Disease (GD), Latent Autoimmune Diabetes in Adult (LADA), Systemic Lupus Erythematosus (SLE), and Ulcerative Colitis (UC)
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Background: Advancement in medical technology has allowed us to diagnose complicated autoimmune diseases. There is a growing report of multiple autoimmune co-occurrence. Multiple Autoimmune Syndrome (MAS) is a combination of at least three autoimmune diseases, whereas Autoimmune Polyendocrine Syndromes (APS) comprise autoimmunity that involves multiple endocrine gland. Case Illustration: A 47-year old female came with chief complaint of palpitation. She had a history of systemic lupus erythematosus in the last three years, after suffering from malar rash, alopecia, and polyarthritis. Her 24-hour urine protein was 1575 mg. She routinely consumes methylprednisolone, hydroxychloroquine, and mycophenolic acid. She also experienced hematochezia and the biopsy from colonoscopy revealed chronic colitis with crypt destruction. She was diagnosed with ulcerative colitis and was treated with mesalazine. Since last year, her blood glucose was consistently high, accompanied with polydipsia and polyuria. She was treated with metformin, despite persistent increase in her A1C, as well as fasting and random blood glucose. We performed GAD65 test which came back positive, hence we diagnosed her with latent autoimmune diabetes in adult. In the past three months, she experienced palpitations, tremor, diarrhea, diaphoresis, and unexplainable weight loss. No exophthalmos was found, but she complained of an enlargement around her neck. We run thyroid hormone test, her TSHs was <0.003 (0.35-4.94 µIU/mL) and FT4 was 4.17 (0.70-1.48 ng/mL). Her ultrasound revealed diffuse enlargement of both thyroid with increased vascularization. We diagnosed her with Graves’ disease and treated her with methimazole and propranolol.

Discussion: This case highlighted the rare co-occurrence of four autoimmune diseases. The underlying genetic predisposition of individual with autoimmune disease, will make them prone to develop multiple defect in their self-tolerance mechanism. However, the strict criteria of APS or MAS constrained us from putting all her autoimmunities into one big umbrella. Based on epidemiological data, hyperthyroidism in female productive age, with diffuse thyroid enlargement, is commonly due to Graves’ disease. However, this diagnosis needs to be further evaluated with thyroid scintigraphy and confirmed with TSH-receptor antibody test. Conclusion: Improvement in medical diagnostic tools as well as better understanding of the underlying pathophysiology will make it inevitable to find more autoimmunity co-occurrence in the future. In order to keep up with this progress, the traditional classification of APS or MAS should be reviewed to allow clinician to see the case in one big entity. Keywords: GD, LADA, SLE, UC

Thyroid
THYROID DISORDERS CASE REPORT
Oscillating Hypo-Hyperthyroidism; a Rare Type of Autoimmune Thyroiditis in Adolescence
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Background: Spontaneous conversion of hypothyroidism to hyperthyroidism and vice versa is a unique autoimmune entity characterized by the oscillating activity of thyrotropin blocking inhibiting immunoglobulin (TBII) and thyroid-stimulating immunoglobulin (TSI). The simultaneous presence of both antibodies is a rare phenomenon in children. Clinical Case: At 11 years of age a female with Trisomy 21 and mild developmental delay had elevated TSH 5.4uIU/mL (0.4-4.5), normal thyroxine (T4), negative thyroglobulin peroxide antibody (anti-TPO), and thyroglobulin antibody (Anti-Tg). Levothyroxine (LT4) 1.2mcg/kg/day was started. At 12 years of age, she relocated, and the same treatment was continued. About 7 months later, she was referred for weight loss of 8lbs, tachycardia, high BP, suppressed TSH <0.015uIU/mL, high total T4 15.9mg/dL (4.5-12.0), and anti-TPO 38 IU/mL (<9). She was diagnosed with hyperthyroidism and LT4 was discontinued. Repeat lab showed persistently undetectable TSH, high T4, TBII 70 (normal <16%), and TSI 698 (<140 %). Methimazole (MMD) 0.38mg/kg/day and Atenolol 25mg daily was started for Grave’s disease. At 15 years of age, she presented with symptoms of hypothyroidism; 10lb weight gain in 2months, high TSH