Abstracts

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mechanism for development of hypophysitis remains unclear it has been postulated that binding of CTLA-4 antibodies to the CTLA-4 receptor on pituitary cells leads to activation of the classic complement cascade and leads to inflammation of the pituitary gland. IRAEs can resemble common complaints associated with malignancy and clinicians must be aware of this and screen pituitary function on a regular basis for those on check point inhibitors to help stave off morbidity and mortality through early diagnosis.

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Disorders of Thyroid Function Saturday Poster Basic
COMPARATIVE EFFECTIVENESS OF SYNTHROID® VS. GENERIC LEVOTHYROXINE ON TSH LAB OUTCOMES: A CONFIRMATORY ANALYSIS IN A US MANAGED CARE POPULATION
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Prior real-world studies found better TSH outcomes among hypothyroid (HT) patients treated with Synthroid versus generic levothyroxine (GL). The current analysis further explored and refined the research for comparative effectiveness of Synthroid vs. GL using the HealthCore Integrated Research Database (HIRD®). We conducted a retrospective cohort study including patients with ≥2 claims for HT diagnosis between 1/1/2006 and 12/31/2017 from the HIRD. Patients were required to be aged 18+ and have: ≥2 fills for either Synthroid or GL (first fill as index, on or after the first HT diagnosis), ≥26 months of pre-index (baseline) and ≥12 months of post-index (follow-up) health plan enrollment, ≥1 TSH lab result over follow-up, no baseline claim for a non-cohort-defining levothyroxine, no diagnosis for thyroid cancer or pregnancy, and persistence with the index therapy over 1-year follow-up. Cohorts of Synthroid vs. GL users were matched 1:1 using propensity scores, developed from their baseline demographic, clinical, and economic characteristics. Primary outcome was the proportion of patients for whom the last TSH lab result during the follow-up period was within the reference range (0.3-4.12 mIU/L). The proportion of patients within the reference range was compared between Synthroid and GL cohorts using Chi² tests. Sensitivity analyses were also conducted. A total of 18,694 Synthroid and 60,446 GL users were selected. Matched cohorts included 18,382 pairs which were well balanced on baseline characteristics. Mean age was 53 years and 82% were female. The most common baseline comorbidities associated with HT were hyperlipidemia (39.9%), hypertension (31.4%), and goiter (13.2%). The mean (SD) number of HT-related inpatient days (0.2[1.55] vs. 0.3[1.78]) and outpatient services (3.6[3.36] vs. 3.9[3.63]) were significantly fewer in Achievers. Achievers also consistently incurred less than Non-achievers in mean (SD) HT-related costs: $174 ($116) vs. $180 ($116) in pharmacy costs, $1,994 ($9,553) vs. $2,472 ($11,035) in medical costs, and $2,168 ($9,553) vs. $2,653 ($11,035) in total costs (p < 0.001 for all comparisons). The study results suggest that persistent levothyroxine users who achieved TSH goals are associated with less hypothyroidism related health resource utilization and costs.

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Disorders of Thyroid Function Saturday Poster Clinical
DISCORDANCE IN SYMPTOMS REPORTED BY HYPOTHYROIDISM PATIENTS AND THEIR PHYSICIANS
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Symptoms such as tiredness, constipation, depression, cold intolerance and weight gain, are often associated with hypothyroidism (HT). The Adelphi Disease Specific Program (DSP) is a large scale, real-world data generation study. The DSP collected data on 1,000 adult patients with a confirmed diagnosis of HT from 60 primary care physicians and 40 endocrinologists in the US in Jan-Apr 2018, and part of the data describes the symptoms associated with HT and HT management in the real world.

In addition to detailed data on disease (e.g., diagnosis, severity, history, comorbid conditions) and treatment from the physicians, both physicians and patients also independently provided information on the patient’s current symptoms. Number of symptoms reported by physicians vs. by patients was compared at a significance
level of 0.05. A Kappa statistic was calculated to assess the agreement level between patient and physician reporting on each symptom type. This analysis included 262 patients who had symptoms reported by themselves and symptoms documented by their physicians. The mean age was 48.7 (SD 15.7), 78% were female, 70% had overt HT, and 94% were receiving prescribed HT treatment. Mean number of symptoms reported by physicians was 4.0 (SD 3.8) compared to a mean of 7.2 (SD 7.9) symptoms reported by patients (p < 0.01). The most commonly-reported symptoms were weight gain (33% physician-reported and 40% patient-reported), inability to lose weight (34% and 31%), dry/flaky skin (26% and 26%), head hair loss (17% and 22%), brittle hair (15% and 20%), low energy/excessive tiredness (21% and 48%), constipation (15% and 30%), depression (14% and 24%) and cold extremities/cold intolerance (7% and 22%). Discordance of patient and physician symptom reporting was present (or observed) in the symptoms of cold intolerance, tiredness, weight gain, constipation and depression (all kappa statistic <0.40, indicating fair agreement). Symptoms were more often reported by HT patients than their physicians, most notably tiredness and cold intolerance. Further investigation is needed to determine the reasons for discordance and ways to improve it.

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Disorders of Thyroid Function Saturday Poster Clinical
FROM ONSET OF SYMPTOMS TO A DIAGNOSIS OF HYPOTHYROIDISM: THE REAL WORLD EXPERIENCE
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Patients with hypothyroidism (HT) often experience non-specific symptoms, causing a delay in seeking medical care. An in-depth assessment of the journey that patients experience from the onset of symptoms to a diagnosis (Dx) of HT has not been previously studied in the US.

This study included 60 primary care physicians (PCPs) and 40 endocrinologists (endos) and 1,000 of their adult patients with a Dx of HT. Data were collected in Jan-Apr 2018 from: 1) patients: e.g. symptoms leading to a doctor visit, time between symptom onset and consultation, and time to arrive at a HT Dx; 2) physicians: e.g. patient characteristics, diagnostic tests, type of HT, whether the patient had a different Dx before confirmed as HT. Among all patients, 75% were female, mean age 50.5 (SD = 16.1); 67% with overt HT. Prior to initial consultation, patients had symptoms for a mean of 16.0 weeks: 22% consulted physicians within 4 weeks of onset of symptoms, 40% in 5–13 weeks, 31% in 14-26 weeks and 5% in >26 weeks. 53% of initial consultations were initiated by patients themselves, while 33% were encouraged by others. The symptoms precipitating consultation were: weight gain/can’t lose weight (40%/29%), constipation (33%), dry/flaky skin (31%), and low energy/excessive tiredness (both 30%). For endo-managed patients, 57% were diagnosed by an endo (42% self, 15% other endo), 41% by a PCP, 2% other. For PCP-managed patients, 89% were diagnosed by a PCP (50% self, 39% other PCP), 11% by an endo. Twenty nine percent of the patients reported they were diagnosed with HT at initial consultation, 49% in ≤4 weeks, 18% in 5–13 weeks, and 5% in ≥24 weeks. To establish the Dx, TSH was tested in 86% of patients, FT4 in 52%, and FT3 in 15%. Radiological studies were done in 25% of patients, with more use reported by PCPs than endos (e.g., ultrasound, radioactive iodine uptake and scans). Prior to a HT Dx, 3% of patients received an alternative Dx: the most common ones were depression, anemia and thyroiditis without HT. These data confirm the need to improve early recognition of symptoms by patients and a more efficient diagnostic process for physicians. Further education of patients and physicians should improve this process.

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Disorders of Thyroid Function Saturday Poster Clinical
CONTROLLING THE UNCONTROLLABLE: A CASE OF CYBERTOXICOSIS PRESENTING AS PULMONARY EMBOLISM
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Deliberate intake of thyroid hormone for weight loss is not without risk. Excessive dosage of exogenous thyroid hormone can result in overt thyrotoxicosis, atrial fibrillation, venous thromboembolism (VTE) and sudden cardiac death. We describe a case of factitious thyrotoxicosis resulting from surreptitious consumption of liothyronine (T3) obtained from an on-line pharmacy presenting with acute pulmonary embolism (PE). A 34 year old man presented with a 3 week history of recent 30 lb weight loss and a one day history of left sided pleuritic chest pain. He reported he had followed a ketogenic diet for intentional weight loss. Additional symptoms included dia phoresis, increased stool frequency, fatigue and anxiety. Physical examination revealed high blood pressure, tachycardia, hand tremor and flushed, diaphoretic skin. There were no goiter, thyroid nodules or neck tenderness. The remainder of the examination was unremarkable. Laboratory findings included TSH <0.015 (0.4-4.7), FT4 0.4 (0.7-1.8) and FT3 >22.8 (2.8-5.3). A CT angiogram revealed bilateral PEs. The patient initially denied taking any hormone supplements, however he eventually did admit that he has been taking T3 obtained from an internet source for 3 weeks (reported dose 50 µg daily). He denied of any other hormone consumption. He was treated with cholestyramine and propranolol; the FT3 dropped to 8.2 on the following day. The patient was discharged on oral anticoagulation. Thyrotoxicosis is associated with an increased risk of VTE as a result of endothelial dysfunction, decreased fibrinolytic activity, and increased coagulation factor levels (factors VIII, IX, von Willebrand factor, and endothelium-associated protein concentrations). Thyroid evaluation is recommended for patients with unprovoked VTE and individuals with severe thyrotoxicosis should be considered at high risk for VTE. In literature review, elevated FT4 levels were associated with the risk of unprovoked VTE. Our case demonstrates increased risk of VTE may be associated with high FT3 levels as well. This case highlights that the abuse potential of prescription medication obtained through an internet source can be life threatening.

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Disorders of Thyroid Function Saturday Poster Clinical
ASSOCIATION OF AUTOIMMUNE THYROID DISEASE AND RHEUMATOLOGIC DISEASES AMONG INPATIENTS: DATA FROM NATIONAL INPATIENT SAMPLE
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Autoimmune thyroid disease (AITD) comprises of Grave’s disease and Hashimoto’s thyroiditis. Rheumatologic disorders (RDs) are characterized by chronic inflammation and multisystem involvement.