lose weight (n=32/125, 25.6%), mental fog (n=8/125, 6.4%), hair loss (n=8/125, 6.4%) and desire for a natural product (n=7/125, 5.6%)
2. Percentage of patients complaining of fatigue/weight gain in euthyroid state: 16/125 (12.8%) of patients on Armour Thyroid and 29/125 (23.2%) of patients on levothyroxine had complaints of fatigue and weight gain with a normal TSH. This 10.4% difference was significant (p value=0.033, 95% CI 0.84% to 19.8%).
3. Presence of side effects: 24/125 (19.2%) patients on Armour Thyroid discontinued it before 6 months. The top reasons were no improvement of symptoms (n=9/24, 37.5%), palpitations (n=5/24, 20.8%), worsening anxiety (n=3/24, 12.5%), cost (n=2/24, 8.33%), and loss of appetite (n=2/24, 8.33%). 5/125 (4.00%) patients on levothyroxine chose to discontinue it before 6 months. The reasons included presence of palpitations (n=3/5, 60.0%), hair loss (n=1/5, 20.0%), and gluten intolerance (n=1/5, 20.0%). A total of 11/125 (8.8%) had adverse effects from Armour Thyroid while 4/125 (3.2%) of patients on levothyroxine had adverse effects to the medication. The difference of 5.6% leaned toward clinical significance and trended toward being statistically significant (p value=0.06, CI -0.4842% to 12.1677%). Our research shows that patients generally feel better on Armour Thyroid compared to levothyroxine. Armour Thyroid is an effective medication to use for patients who remain symptomatic on levothyroxine and should be considered as a viable option in clinical practice. However, our study also indicated that patients may have more adverse effects on Armour Thyroid when compared to levothyroxine and further studies are needed comparing the two medications. Limitations of our study include the retrospective nature of the study and the sample size.

Thyroid

FROM HYPO- TO HYPERTHYROIDISM

Antiepileptic Drugs and Thyroid Hormone Homeostasis: Literature Review and Practical Guideline

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Thyroid hormones play an essential role in central nervous system development, normal physiological brain function and repairing mechanisms. On one hand, thyroid hormone alterations influence cortical excitability and on the other hand anti-epileptic drugs (AEDs) are associated with alterations in thyroid hormone metabolism. Although this interaction has long been described, and epilepsy is a common and chronic neurological disease, studies describing the interplay are often small and retrospective.
We performed a systematic review of the current literature on epilepsy, AED therapy and thyroid hormone metabolism. Forty-seven studies were included.
Most studies were retrospective cross-sectional studies (n=25) and investigated thyroid function alterations in patients on older AEDs such as phenobarbital, phenytoin, carbamazepine and valproic acid. Overall, almost one third of patients with epilepsy had subclinical hypothyroidism, especially patients on valproate and carbamazepine. Studies with patients receiving polytherapy are scarce, but reported a higher risk for hypothyroidism in patients with older age, female sex, longer duration of epilepsy, intractable epilepsy and polytherapy. Studies on newer AEDs are also scarce and further studies essential to improve the care for epilepsy patients.
AEDs are associated with alterations in thyroid hormone metabolism. Thyroid function monitoring is indicated in patients on AEDs, especially those with refractory chronic epilepsy and those on polytherapy. We provide a practical guideline for thyroid function monitoring for the clinician taking care of patients on AEDs.

Thyroid

FROM HYPO- TO HYPERTHYROIDISM

Association of Thyroid Function With Suicide Ideation/Attempt -A Systematic Review and Meta-analysis

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Background: Thyroid disorders are very prevalent and could affect virtually the entire human body, including cognitive and psychiatric domains. However, the relationship between thyroid dysfunction and suicide is still controversial. **Material and Methods:** A systematic review and meta-analysis was conducted to describe the association of thyroid function with suicide ideation/attempt in adults. A comprehensive search from databases' inception (MEDLINE, EMBASE, Cochrane, PsycINFO, PsycArticles, PSYNDEX and Scopus) to July 20, 2018 was conducted with no language restrictions. We included studies that reported mean values and standard deviation (SD) of thyroid hormone levels [Thyroid-stimulant hormone (TSH), free T4 (FT4), free T3 (FT3), total T4 (TT4), and total T3 (TT3)] in patients with suicide ideation/attempt compared with controls. Four reviewers worked independently and in duplicate for assessment of inclusion criteria, data extraction, and assessment of risk of bias. The mean value and SD of the thyroid function tests were used to calculate the mean difference for each subgroup. Random-effects models for meta-analyses were applied. **Results:** Overall, 2278 articles were identified, and 13 observational studies met the inclusion criteria. These studies involved 2651 participants, including 817 participants diagnosed with suicidal ideation/attempt. Group sizes of patients with suicide ideation/attempt ranged from 7 to 122 participants with mean age ranging from 23 to 49 years. Control group sizes ranged from 8 to 464 participants with mean age ranging from 24 to 50 years. Two studies included only women, two