



Thyroid and Lupus

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› No disclosures

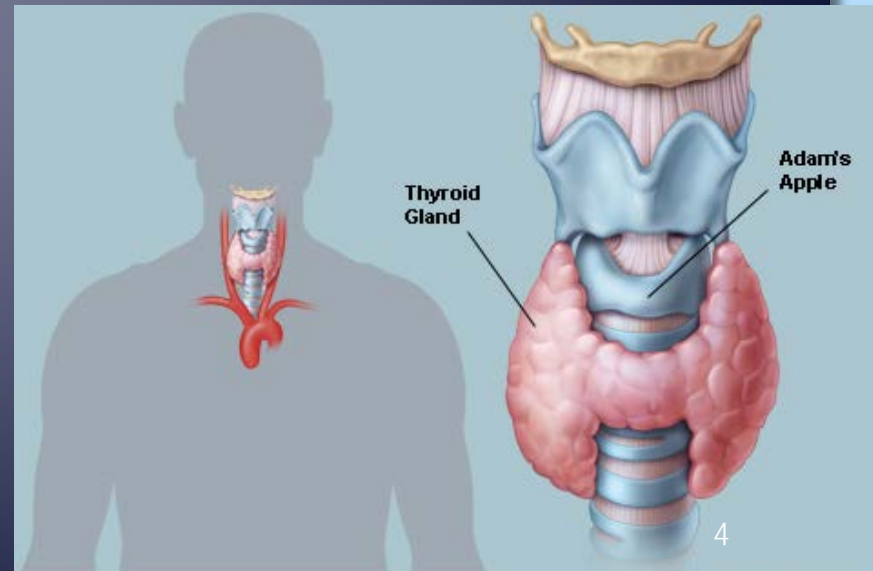


Overview

- › Introduction & General Thyroid
- › Hyper & Hypo-thyroidism in SLE
- › Thyroid Autoimmunity in SLE
- › Thyroid Cancer
- › Thyroid disease in Lupus in Pregnancy

Thyroid

- › Butterfly shaped gland in lower neck
- › Stimulated by the brain
- › Produces thyroid hormone
 - Thyroid hormone aids in metabolism





Thyroid Hormone

› Affects:

- Brain
 - › Helps control breathing and body temperature
- Heart
 - › Helps control heart rate
- Kidneys
- Liver
- Skin
- Bones
- Muscles
- General metabolism
 - › Aids in control of menstrual cycles

How do we evaluate thyroid?

- › Interview and physical exam (non-specific)
- › Blood tests
 - TSH (brain hormone)
 - T3/T4 (thyroid hormone)
 - Antibody tests
- › Imaging
 - Ultrasound
 - Thyroid scan (radio-active Iodine uptake)
- › Biopsy
 - Needle biopsy
 - Surgical specimen

Thyroid dysfunction symptoms

- › Fatigue
- › Hair loss
- › Weight loss or gain
- › Depression
- › Change in appetite
- › Muscle and joint pains
- › Hot & cold sensitivity
- › Menstrual disturbances
- › Dry skin, hair
- › Difficulty concentrating, anxiety, nervousness
- › Many others...

Many symptoms can be confused with lupus!



Thyroid disease and Lupus

- › Since 1961, association between thyroid abnormalities & lupus described
- › Thyroid dysfunction and thyroid diseases are more frequent in lupus patients than in general population



Types of thyroid problems in lupus patients

1. Hyperthyroidism
2. Hypothyroidism
3. Autoimmune Thyroid (Antibodies)
4. Sick "euthyroid" syndromes
5. Thyroid cancer
6. Thyroid disease in pregnancy in the lupus patient



Lupus and Thyroid Diseases

- › No thyroid disease in lupus patients is SPECIFIC to lupus!

All thyroid diseases in lupus are the same diseases in non-lupus patients

1. Hyperthyroidism and Lupus

- › Thyroid gland is OVER producing thyroid hormone
 - Too much thyroid hormone in the body
- › Less common in SLE patients (~1-4% of lupus patients)
- › Can associated with antibodies or not

Hyperthyroidism and Lupus

- › Too much thyroid hormone can cause symptoms of:
 - Weight loss
 - Fatigue
 - Palpitations, heart arrhythmias
 - Tremors
 - Anxiousness
 - Heat intolerance
 - Frequent bowel movements
 - Goiter (neck swelling in the thyroid)
 - Bulging eyes ("proptosis")
 - Osteoporosis





Hyperthyroidism and Lupus

- › Treatment includes
 - 1) anti-thyroid medications, or
 - 2) surgical removal, or
 - 3) radioactive iodine
 - Depending which is chosen, sometimes can result in life-long thyroid hormone replacement (by mouth)

- › Goal of treatment: keep metabolism rate normal



2. Hypothyroidism & Lupus

- › Thyroid gland is UNDER producing hormone
- › Most common thyroid disease associated with lupus (~6-14%)
- › Can associated with antibodies or not

Hypothyroidism & Lupus

- › Too little thyroid hormone and cause symptoms of:
 - Weight gain
 - Fatigue
 - Cold sensitivity
 - Constipation
 - Depression, forgetfulness
 - Moodiness
 - Dry hair
 - Dry skin
 - If profound and prolonged: “myxedema coma” with severe weakness, diffuse swelling, low blood pressure, lethargy or coma



Hypothyroidism & Lupus

- › Treatment includes hormone replacement therapy (pill)
- › Goal of treatment: to get metabolism back to the normal rate



3. Sick “euthyroid” syndromes

- › Associated with acute and chronic systemic conditions
 - Intensive care unit (ICU) illnesses
 - Severe infections
 - Renal dysfunction
 - Also lupus
- › Drugs (steroids & immune-suppressants) can also affect this condition



Sick “euthyroid” syndromes

- › Sick euthyroid associated with higher lupus disease activity
- › Hard to estimate: ~8% lupus patients with sick euthyroid
 - Fluctuates depending on lupus disease activity
- › No symptoms aside from laboratory abnormalities



4. Autoimmune thyroid disease

- › Marked by presence of antibodies to parts of the thyroid (blood tests)
- › Has been associated w several rheumatic & connective tissue diseases:
 - Lupus
 - Sjögren's Syndrome
 - Rheumatoid Arthritis
 - Giant Cell Arteritis

Autoimmune thyroid disease

- › Can be marked by
 - (1) antibodies (blood tests) alone or
 - (2) antibodies WITH active thyroid disease
 - › Either hypo- or hyper- thyroidism

- › 23-30% SLE patients have thyroid antibodies
 - Compare 10% in general population

5. Thyroid Cancer and Lupus

- › Lupus associated w increased overall risk of malignancy (any type) compared to general population
- › Lupus is associated with overall increased risk of thyroid cancers
 - About twice the cancer rate compared to the general population
 - › (Study including >66,000 SLE patients- only 72 thyroid cancers: 0.1% of patients)
 - Less risk compared to other cancers (blood, bladder, vaginal, liver cancers)

Thyroid Cancer & Autoimmune Thyroid disease in Lupus

- › Autoimmunity in thyroid- increases risk cancer in thyroid
- › Majority of Lupus patients with thyroid cancer have autoimmune thyroid disease (80%)
 - *autoimmune thyroid disease in lupus is a risk factor for thyroid cancers in lupus patients*
 - › Same in non-lupus patients

Why the increased risk of Thyroid Cancer in Lupus?

1. SLE patients have dysregulations in immune system
 - Theory: these dysregulations in immune system are part of the risk
2. Medications used in lupus increase immunosuppression (changes in the immune system)- perhaps increase the risk
3. Higher association of autoimmune thyroid disease in SLE patients- increases the cancer risk



Thyroid Cancer & Lupus: Screening?

- › There are no guidelines on cancer screening specifically for patients with SLE
- › There are currently no screening guidelines for thyroid cancer
 - (USPSTF pending 2015 recommendations)



Thyroid Cancer Symptoms

- › Early- no symptoms
- › Later- symptoms from the growth of the cancer
 - Swollen lymph nodes/ lump in neck
 - Hoarse voice/ change in voice
 - Trouble breathing
 - Trouble swallowing
 - Cough/ coughing up blood
- *No specific symptoms*



6. Thyroid disease in pregnant women with lupus

- › Pregnancy= stress test for thyroid
 - Increased need for thyroid hormone as much as 50%

- › No difference in activity of lupus during pregnancy between patients with thyroid disease versus those without

Thyroid disease in pregnant women with lupus

- › Women with SLE & thyroid disease seem to have higher risk of pre-term delivery (PTD) compared to women with lupus and NO thyroid disease (67% v. 18%)
 - Irrespective of adequate treatment
 - No effect of thyroid antibodies on PTD



Thyroid Disease in Lupus Summary

1. Thyroid symptoms are vague, non-specific; can seem like lupus symptoms
2. All thyroid diseases in lupus are the same diseases in non-lupus patients
3. Hypothyroidism (underactive thyroid) is the most common thyroid disease in SLE
4. Thyroid cancer risk in lupus is higher than in the general population, but still very low
5. Women with SLE & thyroid disease have higher rate of pre-term delivery compared to women with SLE without thyroid disease

Questions



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