

哈佛見習交換成果報告

(Beth Israel Deaconess Medical Center, Endocrinology and Metabolism)

Reason for consult

Hyperthyroidism with TSH < 0.02

History of Present Illness

N.M. is a 29-year-old woman who is healthy and without known histories of thyroid diseases. She was admitted on 10/8 due to RLQ abdominal pain. On arriving ER, her heart rate was 124. Lab studies later revealed TSH<0.02 with T4: 31.7, T3:453, free T4:>7.7. Endocrine is consulted for evaluation of her hyperthyroidism.

On our endocrine consult today, patient reports to have sore throat, headache, and neck pain that started two weeks ago. She also had daily fevers in the last week with the highest temperature 102.4. Symptoms of sore throat and fever resolved a few days ago, but she then developed RLQ abdominal pain which prompted her to the ER.

Pertaining to her symptoms:

She did not have any cough, rhinorrhea or dysuria along with the sore throat and fever. She has reduced appetite and unintentionally lost 10 lbs in two weeks. In addition, she experienced sweating and soaking through her clothes, mild dysphagia, nausea, intermittent diarrhea with loose stools. She denies palpitations, insomnia and muscle weakness.

Past Medical History

-denies any thyroid or endocrine-associated diseases
-no remarkable history

Menstrual and Reproductive History

-menarche at age 12-13
-regular period pattern, once a month, absent menstrual disorders
-miscarriage in March 2015, menstrual period has been late since then
-last menstrual period: Aug.23-28
-in addition to the miscarriage, no known infertility issue by far

Family History

-denies any thyroid or endocrine-associated diseases
-no remarkable history

Social History

- never smoke
- social drink 2-3 times a week
- denies illicit drug use
- currently bank manager
- married

Travel History

- no remarkable history

Additional History

She did not have thyroid problems before and denies thyroid diseases or other endocrine-associated issues in her family. She had a miscarriage in March 2015, and her last menstrual period was Aug 23-28.

Allergy

no known drug allergy

Review of Systems

She denies chest pain or shortness of breath. All ROS reviewed and negative except as noted in HPI or physical exam.

Physical Examination

Vital signs: (10/9/2015 7:30AM)

BT-98.1, BP-116/52, HR-120, RR-20, O2 saturation-100% on room air

HEENT: No exophthalmos or lid lag. Extraocular movements are intact. Vision fields are intact. Mucous membranes moist.

Neck: No evidence of cervical, submandibular, or posterior auricular lymphadenopathy. Thyroid glands slightly enlarged with patchy, nodular, and irregular pattern c/w thyroiditis. No thyroid bruits.

Lung: bilateral clear to auscultation

Heart: regular sinus rhythm; tachycardic

Abdomen: Mild tenderness on RLQ. No hepatomegaly or splenomegaly.

No suprapubic pain. Bowel sounds are normoactive.

Skin: slightly moist and warm. No skin rash.

Extremities: warm and well perfused. No pretibial edema.

Nails: normal

Neuro: oriented to person/place/time

No tremor with bilateral hand outstretched.

DTR: 2+ detected in bilateral brachial, brachioradialis and patellar.

Psych: generally stable and pleasant. Not anxious or depressed.

Lab data

	TSH	T4	T3	freeT4
10/08/2015	<0.02	31.7	453	>7.7
10/15/2014	1.0			

Imaging Study

On this admission, transvaginal pelvic US ruled out pregnancy, and abdominal CT (with contrast) ruled out appendicitis.

Assessment

N.M. is a 29-year-old woman without history of pre-existing thyroid disease. She has biochemical and clinical evidence of thyrotoxicosis. Her clinical presentation is most c/w subacute thyroiditis and her thyroid examination is also classic. We will symptomatically manage her and allow her thyroid gland to recover on its own. This can take several weeks to three months. Checking thyroid antibodies can be helpful to predict her risk of permanent hypothyroidism in the future.

Plans

1. Continue propranolol 20 mg Q8h; patient and the husband seem understanding and compliant. She may be discharged once heart rate normalized.
2. Aspirin 650mg Q8h for anti-inflammatory effect.
3. Please check TPO and thyroglobulin antibodies.
4. Discontinue thyroid ultrasound.
5. We have d/w the patient and her husband to avoid pregnancy for at least 2 months until the thyroiditis subsides. She will visit Dr. Pallotta's clinic on Thursday, 10/15/15, at 11:30am for follow-up. Appointment is confirmed and she is agreeable to it.

Plan of care d/w Dr. Pallotta and primary medicine team.

Differential Diagnosis

- Acute infection thyroiditis
- Graves' disease

Hospital Course

The primary medicine team started N.M. on propranolol 40 mg Q8h and aspirin 650 mg Q8h. TPO and thyroglobulin antibodies exam were sent. After the symptoms relatively relieved, she was discharged the next day of our consult.

Discussion

Subacute thyroiditis is fundamentally a *clinical diagnosis*. In most patients, clinical manifestations (the presence of neck pain, often radiating upward to the jaw, marked thyroid tenderness, and a diffuse goiter) are sufficient to establish the diagnosis. Symptoms and signs of hyperthyroidism may or may not be present, but the serum thyroid-stimulating hormone (TSH) is usually suppressed (typically <0.1 mU/L) and free thyroxine (T4) and triiodothyronine (T3) concentrations elevated.

Clinical Features of Subacute thyroiditis

• Clinical manifestations

- Pain is often present and the onset may be sudden or gradual. It may also be preceded by an upper respiratory infection. The pain may be limited to the region of the thyroid or radiate to the upper neck, jaw, throat, upper chest, or ears. Pain can be exacerbated by coughing or turning the head. As a result, some patients first consult an otolaryngologist. Fever, fatigue, malaise, anorexia, and myalgia are common
 - The thyroid gland is typically slightly or moderately diffusely or asymmetrically enlarged, and nearly always tender. Approximately one-half of patients have symptoms and signs of hyperthyroidism, but the neck pain and tenderness usually dominate the illness, and the diagnosis should not routinely be made in their absence. Temperature elevations also can occur.
 - The thyroid inflammation and hyperthyroidism are transient, usually subsiding in two to eight weeks, even if the patient is not treated. It may be followed by a period of transient, usually asymptomatic hypothyroidism lasting from two to eight weeks or longer, but recovery is nearly always complete.
- *Although the hyperthyroidism is usually mild and transient, it may rarely be associated with serious side effects such as ventricular tachycardia and thyroid storm.

• Laboratory findings

- In addition to thyroid tenderness, nearly all patients have biochemical evidence of hyperthyroidism (high serum free thyroxine [T4] and triiodothyronine [T3] and low serum thyroid-stimulating hormone [TSH] concentrations) during the early stages of the illness, even though many have few, if any, symptoms of thyroid excess. The serum free T4 and T3 concentrations are usually only mildly elevated, and serum T3 is not typically disproportionately increased, as it is in some patients with Graves' hyperthyroidism. Hyperthyroidism is transient, lasting from two to eight weeks, and may be followed by a period of transient, usually asymptomatic, overt or subclinical hypothyroidism (high TSH and low, low-normal, or normal serum free T4 and T3).

- The erythrocyte sedimentation rate is usually greater than 50 mm/hour and may exceed 100 mm/hour. C-reactive protein may also be elevated.
- Other characteristic laboratory findings (although not routinely needed to confirm diagnosis) include high serum thyroglobulin concentrations due to release from the thyroid gland, mild anemia, and leukocytosis. Liver function tests are also frequently abnormal during the initial hyperthyroid phase and then typically return to normal over the next one to two months as the disease improves.
- Imaging studies
 - A radioiodine or technetium imaging study will show low uptake (usually less than 1 to 3 percent) or a faint heterogeneous pattern of radionuclide uptake during the hyperthyroid phase (in the absence of previous recent exposure to high iodine-containing radiocontrast agents).
 - On ultrasonography the thyroid appears to be normal or enlarged but is diffusely or focally hypoechogenic regardless of its size

Why did you choose the case?

記得當時指導老師與 fellow 在電話裡接到這個照會時，當下很快就反應——八九不離十是 subacute thyroiditis. 而不曾見過這類病例的我仍一頭霧水，努力回想書本上寫的臨床症狀，並疑惑為什麼臨床醫師能立即聯想？之後我們來到 bedside，花了不少時間請病人與其丈夫描述到院前所經歷過的各種症狀與不適，他們也鉅細靡遺的告知，過程中可以感受到病人本身充滿困惑與不解，為什麼一開始類似感冒的症狀竟會與甲狀腺有關？但在老師解釋之後就表示較為理解、放心。

老師特別要我與病人確認隔週的回診時間，也希望我屆時能到門診再與病人碰面、了解她回家之後的情況。從老師的言談間，可以發覺即便不是非常特殊、難解的病例，她仍認為這位 subacute thyroiditis 病人對我而言是一個十分重要、應該掌握的學習機會。接著在門診時，病人表示回家後仍有許多不適——大量流汗濡濕床單、心跳加速、原先的喉嚨痛甚至蔓延到耳朵，我乍聽也不免覺得擔憂，與老師討論後才知道這其實都可視為 subacute thyroiditis 的典型臨床表現。在老師與病人相約一個月後再回來門診追蹤、接著離開診間時，病人私下問我可不可以把她的病名再一次寫下來給她？並且詢問是否真的無須再吃其他藥物？我也藉這個機會練習，把所學所聞的知識試著用自己的話解釋給她聽，雖然不知道是否真能為她解惑，但對我而言仍是相當寶貴、難忘的經驗。

What's new in the literature relating to your case, such as diagnostic aids, treatment or any other aspects.

在我所搜尋的文獻當中，相較在 imaging studies 部分有較多著墨，而在我所接觸的病人身上，老師則是建議取消原本 primary team 預計安排的 thyroid ultrasound.

在文獻中寫道 “On ultrasonography the thyroid appears to be normal or enlarged but is diffusely or focally hypoechogenic regardless of its size.” 以及 “For patients in whom the clinical presentation is less obvious (eg, thyroid tenderness less prominent), thyroid ultrasonography may be useful to assess for cystic and/or solid masses. In addition, Doppler sonography may be used to distinguish subacute thyroiditis (decreased flow during hyperthyroid phase) from Graves’ disease (enhanced flow).” “確實超音波檢查在診斷 subacute thyroiditis 時有其價值，卻非絕對必要。

老師也在進行理學檢查時問我們，subacute thyroiditis 與 Graves’ hyperthyroidism 最大的差別在哪裡？依她的經驗，除了臨床歷程表現之外，其中一點在於 bruits 的有無。回想起來，在病史詢問與理學檢查告一段落後，至此老師心中已自信有了明確的答案，也就無需更進一步的影像檢查佐證，即便是非侵入性、在台灣常聽身邊的人說既便宜又方便多做無妨的超音波。

References

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