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CLINICAL VIGNETTE

Postpartum Thyroiditis

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A 35-year-old G1P1 previously healthy female presents to her primary care physician with fatigue and weight loss. She delivered a healthy baby girl 8 months ago and felt well until approximately 3 to 4 weeks ago when she developed an upper respiratory infection. She also developed anterior neck and throat pain. Over the past several weeks, she noted forgetfulness, a racing heart associated with occasional shortness of breath, loose stools, hair loss, headaches, insomnia, and an 8-pound weight loss. She is still nursing and her menses have not resumed. She also notes muscle pains and tenderness, and she developed back pain over the weekend after carrying her daughter. There is no family history of thyroid disease or malignancy. Her pregnancy had been uneventful.

Her physical exam was notable for blood pressure 100/62, pulse 104, and weight of 103 lbs. She was well-appearing and in no acute distress. She had no lid lag or stare. Neck exam revealed no lymphadenopathy and her thyroid was firm and tender and approximately 1-1/2 times normal size. Her cardiac exam was unremarkable except for tachycardia. Her palms were warm and she had no tremor with normal reflexes. Laboratory studies revealed TSH less than 0.02 mcIU/mL, elevated free T4 4.2 ng/dL, elevated free T3 index of 373 and total T3 of 224 ng/dL, TPO antibody was elevated 154 IU/ml. Thyroglobulin and thyroglobulin antibodies were negative and Vitamin D25OH was 18 ng/mL. She was started on propranolol 20 mg twice daily and vitamin D3 50,000 IU weekly and was asked to return for follow up thyroid function tests in 4 to 6 weeks.

Postpartum thyroiditis refers to an autoimmune destructive inflammation of the thyroid, which occurs within one year of childbirth. It is considered a variant of Hashimoto's thyroiditis (65-85% of women with postpartum thyroiditis have elevated antithyroid peroxidase antibodies)[1] and has a mean prevalence of 7-8% [2]. Higher prevalence is seen in women with diabetes mellitus type 1 (25%)[3], with antithyroid peroxidase antibodies during pregnancy (40-60%)[2], and women with a prior history of postpartum thyroiditis (70%)[4].

Postpartum thyroiditis is usually diagnosed by clinical presentation and abnormal thyroid function tests. The classic presentation includes symptomatic hyperthyroidism (weight loss, fatigue, palpitations, tachycardia, tremor, heat intolerance, mood irritability and anxiety) typically occurring 1-4 months after delivery and lasting 2-8 weeks, followed by a hypothyroid phase (fatigue, cold intolerance, dry skin/hair, constipation) for 2 weeks-6 months, followed by euthyroid recovery. About 20-30% of women follow the classic course and 20-40% only develop the hyperthyroid phase and 40-50% have only the hypothyroid phase[5]. Many symptoms of postpartum thyroiditis can be confused with the stresses and fatigue associated with having a newborn baby and breastfeeding. Because hypothyroidism is a reversible cause of depression, patients with postpartum depression should have a TSH level checked[6].

Since thyroid function levels vary depending on the phase of postpartum thyroiditis, if there is suspicion for thyroid disease in a postpartum patient, clinicians should measure both TSH and free T4 (thyroxine) levels. If TSH levels are suppressed, T3 levels should also be measured. Thyroid stimulating immunoglobulins (TSI) can help differentiate postpartum thyroiditis from Grave's disease (they are present in Grave's disease) and radioiodine uptake studies can help in the differentiation as well (RAI is low in Graves and high in the hyperthyroid phase of postpartum thyroiditis). RAI is contraindicated in pregnancy and breastfeeding so its utility is limited in postpartum patients. The hyperthyroidism in postpartum thyroiditis tends to be clinically milder that Grave's disease. There is no ophthalmopathy in postpartum thyroiditis.

Lymphocytic hypophysis (characterized by lymphocytic infiltration and enlargement of the pituitary followed by destruction of the pituitary cells) most often occurs in late pregnancy or the postpartum period also needs to be considered in women with postpartum thyroid disease[7]. In

lymphocytic hypophysis, the TSH level is low and T4 level is also low (in addition to other pituitary hormone levels)[7].

The prevalence of postpartum thyroiditis spurs the discussion of whether we should screen women with routine periodic TSH levels postpartum or TPO antibody levels early in pregnancy (as high levels suggest increased risk for postpartum thyroiditis). The Endocrine Society advises that at this time, there is insufficient evidence to support a recommendation to screen all postpartum women for postpartum thyroiditis. However, women at highest risk (women with anti-TPO antibodies, diabetes mellitus type 1, and/or prior history of postpartum thyroiditis) should be screened with a TSH level at 3-6 months postpartum. There are no evidence-based therapies to prevent postpartum thyroiditis[6,8].

APPENDIX

2007 Endocrine Society Recommendations for Treatment:

Women with symptomatic hypothyroidism or women planning pregnancy in the near future should be treated with levothyroxine (T4). Asymptomatic women with TSH greater than 10 should also be treated with levothyroxine (T4). Asymptomatic women with TSH less than 10 can be followed with thyroid function tests every 4-8 weeks to document resolution. Women with symptomatic hyper-thyroidism can be managed with propranolol (40-120 mg/day) or atenolol (25-50 mg daily) until thyroid function tests normalize. Propranolol is preferred if the patient is breastfeeding[6,8].

In patients treated with levothyroxine, the re-commendation is to wean levothyroxine after 6-12 months of therapy by decreasing dose by half and rechecking thyroid function tests every 6-8 weeks. Most patients will recover and become euthyroid within a year postpartum but 30% of patients never recover thyroid function back to baseline and will require lifelong levothyroxine. Due to the high rate of recurrence of postpartum thyroiditis, it is recommended that patients consider continuing levothyroxine until at least 1 year after all child-bearing is complete and then wean therapy. TSH levels should be checked annually in all postpartum thyroiditis patients who have fully recovered[6,8].

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