



Impacted Wisdom Teeth Removal on a Patient with Primary Hypothyroidism (Hashimoto Disease)

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KEYWORDS

- Hashimoto thyroiditis • Endocrine disease • Oral health care providers
- Hypothyroidism • Myxedema

KEY POINTS

- Thyroid gland dysfunctions can adversely affect patients' systemic health and well-being.
- Thyroid disease is the most common endocrine disorder.
- Recognizing early signs and symptoms of hypothyroidism is crucial in the early diagnosis of hypothyroidism.
- Oral health care providers must obtain comprehensive medical records from patients with hypothyroidism before dental treatments.

MEDICAL SCENARIO

A 39-year-old Middle Eastern woman with a history of Hashimoto thyroiditis was referred to a local oral and maxillofacial surgery office for evaluation of impacted wisdom teeth, #17 and 32, surgical extractions. She has been on variable doses of levothyroxine but a few months ago decided to discontinue to see if she had any improvement in her vertigo. She is recently experiencing increased fatigue, difficulty losing weight, occasional constipation, and cold intolerance. However, she noted no significant difference in her vertigo since stopping the levothyroxine.

Vital Signs and Other Findings

Blood pressure: 99/66 mm Hg.
Heart rate: 53 beats per/min.

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Respiratory rate: 19 breaths per/min.
 Weight: 203 lbs (92.1 kg).
 Body mass index: 33.78 kg/m².

Review of System

The patient seems overweight and not in acute distress. No thymomegaly was noted on the examination.

Laboratory Workup from the Primary Care Physician

Thyroid-stimulating hormone: 63.09 mIU/L (normal range: 0.40–4.5 mIU/L).
 Free thyroxine (T4): 0.6 ng/dL (normal range: 0.8–1.8 ng/dL).
 Antithyroid peroxidase antibody: 72.6 IU/mL (normal range: 0–34 IU/mL).
 Fasting blood glucose: 100 mg/dL (normal range: 65–99 mg/dL).
 High-density lipoprotein: 49 mg/dL (normal range: > OR = 50 mg/dL).
 Low-density lipoprotein (LDL): 103 mg/dL (normal range: 99 mg/dL).

DENTAL MANAGEMENT DECISION AND JUSTIFICATION

Thyroid disease is the most common endocrine disease.¹ The thyroid hormone is essential for the growth and development of infants and children. In addition, the thyroid hormone plays a significant role in energy metabolism in adults. The hypothalamus-pituitary axis feedback mechanism is crucial in controlling the thyroid glands' function.² Hypothyroidism is referred to as deficiency of thyroid hormone production, low thyroxine (T4) and/or triiodothyronine (T3), that can be related to congenital defects, autoimmune disease, or acquired factors such as a history of radioactive iodine therapy or thyroidectomy.² Myxedema refers to skin changes in adults with long-lasting hypothyroidism.¹ In myxedema, mucopolysaccharide accumulation in the subcutaneous tissue may present as nonpitting edema in hands, feet, and eyelids.³

Up to 5% of the general population is affected by hypothyroidism.¹ In developed countries, chronic autoimmune thyroiditis or Hashimoto thyroiditis is the most common cause of hypothyroidism.¹ Hashimoto thyroiditis is due to high-level circulating autoantibodies against thyroid peroxidase, the necessary enzyme to convert T4 to T3.¹ Women are more affected than men.¹ Because of the high prevalence, oral health care providers (OHCPs) must recognize early signs and symptoms of hypothyroidism (Table 1).⁴

Patients with an autoimmune thyroid disorder (Hashimoto thyroiditis) may develop other autoimmune connective tissue disorders such as Sjögren syndrome.⁵ Patients with thyroid complaining of hyposalivation and xerophthalmia should be further evaluated for possible Sjögren syndrome (Fig. 1). Although most patients with well-

Table 1
Mild-moderate hypothyroidism signs and symptoms⁴

| | |
|---|--|
| Mild-moderate hypothyroidism signs and symptoms | Weight gain Fatigue Depression Menstrual irregularities Dry hair Thick and dry skin Cold intolerance Bradycardia Voice deepening |
|---|--|



Fig. 1. Xerophthalmia in a female patient with well-controlled Hashimoto thyroiditis and a recent diagnosis of Sjögren syndrome.

controlled hypothyroidism do not require special dental precautions or modifications, it is crucial to consult with the patient's primary care physician to obtain a comprehensive general clinical history, current laboratory values, and the status of their disease before dental procedures. In addition, monitoring vital signs during dental procedures is essential to avoid complications.⁴

OHCPs should palpate the anterior neck region and feel for any swelling or goiter as part of their comprehensive oral examination at every dental visit.³ In patients with Hashimoto thyroiditis, the thyroid gland will feel much firmer on palpation than the normal gland.³ Sodium levothyroxine (LT₄) is a synthetic preparation of thyroxine used to treat patients with hypothyroidism.^{4,5} Patients with hypothyroidism are also at risk for developing atherosclerosis from cardiovascular disease and elevated LDL.¹ Patients with myxedema are at risk for developing bleeding postsurgical dental procedures due to the inability of small vessels to constrict and mucopolysaccharide infiltration of tissues, including in mucosa.⁵ In addition, wound healing may be delayed due to reduced fibroblast metabolic activity.⁴

Uncontrolled hypothyroidism can lead to respiratory depression; therefore, placing patients in a partially upright position and providing oxygen supplementation may be necessary. In addition, stress during dental procedures should be minimized. If needed, prescribing medications that can induce central nervous system depression, including narcotics for postoperative pain management, should be prescribed in consultation with a physician.⁴

Epinephrine in local anesthetic or gingival retraction cords can potentially cause adverse effects with existing cardiac symptoms in uncontrolled hypothyroidism and should be used with caution.⁴ Myxedematous coma is an extreme manifestation of hypothyroidism in patients with uncontrolled hypothyroidism. Signs of myxedematous coma include severe alteration of the mental status, hypothermia, arrhythmia, severe hypotension, and epileptic seizure.⁴

CLINICS CARE POINTS

- Obtain the patient's most recent medical records.
- Monitor vital signs at baseline and during dental procedures to avoid complications.

- Epinephrine in local anesthetic should be used with caution in uncontrolled hypothyroidism.
- Reduce stress during dental procedures.
- At every dental examination visit, palpate the thyroid gland to detect swelling or changes.
- Most patients with controlled disease undergoing routine dental procedures will not require modifications.

DISCLOSURE

The authors have nothing to disclose.

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