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General Surgery

DIFFERENTIATED THYROID CANCER SURGERY : OVERVIEW OF MANAGEMENT

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KEYWORDS :

Surgery is the primary mode of therapy for patients with differentiated thyroid cancer, followed by radioiodine therapy (when indicated) and thyroid hormone suppression therapy. After initial surgery, patients with thyroid cancer are typically managed by endocrinologists specializing in the treatment of thyroid cancer[1].

All patients should have a preoperative ultrasound evaluation of the central and lateral neck lymph nodes in order to plan the surgical procedure. Additional imaging beyond routine preoperative neck ultrasound should be obtained in patients presenting with locally advanced disease.

Surgical options include total/near-total thyroidectomy and unilateral lobectomy with isthmusectomy. The operative approach depends upon the extent of the disease (eg, primary tumor size and the presence of extrathyroidal extension or lymph node metastases), the patient's age, and the presence of comorbid conditions. Subtotal thyroidectomy is an inadequate procedure for patients with thyroid cancer.

After thyroid surgery, all patients (except selected low-risk patients undergoing lobectomy) require postoperative thyroid hormone therapy (T4)[levothyroxine]) to replace normal hormone production and/or to suppress regrowth of tumor[2]. Thyroid-stimulating hormone (TSH) is measured four to six weeks postoperatively, and the initial dose is adjusted as needed to achieve goal TSH.

In order to determine the need for additional treatment (in particular, radioiodine therapy) after surgery, we use the American Thyroid Association (ATA) initial risk stratification system to estimate the risk of persistent/recurrent disease. This system is designed to stratify patients as having either low (papillary thyroid cancer confined to thyroid), intermediate (regional metastases, worrisome histologies, extrathyroidal extension, or vascular invasion), or high (gross extrathyroidal extension, distant metastases, or postoperative serum thyroglobulin [Tg] suggestive of distant metastases) Postoperative management includes treatment with thyroid hormone- suppressive therapy (most patients) and radioiodine (high-risk and selected)

The degree of TSH suppression is individualized based upon the extent of the disease and the likelihood of recurrence. For most patients with high- risk disease, we recommend an initial serum TSH goal of <0.1 mU/L (Grade 1B). For patients with intermediate-risk disease, or low-risk disease treated with thyroidectomy who have detectable serum Tg levels, an initial serum TSH goal between 0.1 and 0.5 mU/L (Grade 2C). For other low-risk patients who have undetectable serum Tg levels (with or without remnant ablation) or who were treated with lobectomy, TSH can be maintained in the mid to lower half of the reference range (0.5 to 2.0 mU/L). TSH goals for long- term follow-up are based on response to therapy assessments further modified by comorbid conditions that increase the potential risks of prolonged TSH suppression (such as menopause, tachycardia, osteopenia, older age, osteoporosis, or atrial fibrillation)

For the detection of possible persistent/recurrent disease during the first yearafter thyroidectomy or lobectomy, we monitor neck ultrasound, TSH, and serum Tg levels on thyroid hormone suppression. The timing, frequency, and type of additional testing used to detect recurrent disease is based on both ATA initial risk stratification and ongoing response to therapy evaluation.

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