
Current Concepts in Thyroid Cancer

November 2024

AAO-HNSF Head and Neck Surgery Education Committee

Assessment Questions

1. A 63-year-old woman presents for discussion of radioactive iodine therapy after undergoing a total thyroidectomy. Her pathology classification is pT1bNx multifocal papillary thyroid cancer, classical variant. How would you counsel her?
 - a. She should undergo low-dose radioactive iodine therapy as this will lead to improved oncologic outcomes.
 - b. Her age and gender increase the likelihood of subsequent recurrence.
 - c. A pT1b status together with multifocality warrants radioactive iodine treatment.
 - d. In her case, avoidance of radioactive iodine therapy does not result in increased risk of recurrence.

2. Of the following, which statement is true regarding risk of subsequent recurrence for low-risk papillary thyroid carcinoma after thyroidectomy according to the Lebolleux study?
 - a. The presence of a BRAFV600E mutation substantially increases the risk of subsequent structural recurrence.
 - b. Administration of radioactive iodine at a dose of 30mCi leads to reduced likelihood of recurrence assessed by persistent elevation in thyroglobulin levels.
 - c. Postoperative serum thyroglobulin level >1ng/ml while on thyroid hormone treatment after thyroidectomy is associated with increased risk of recurrence.
 - d. Patients avoiding radioactive iodine and undergoing observation had an increased likelihood of recurrence shown by abnormal ultrasound results.

3. Specific genetic alterations were detected in most Bethesda Category V-VI nodules, with a higher prevalence of BRAF and TERT mutations and targetable gene fusions, offering prognostic and therapeutic information for patient management.
 - a. 20%
 - b. 33%
 - c. 50%
 - d. 66%

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4. In a large (>50,000 samples) study, what type of genetic alterations were most commonly seen in Bethesda Category V and VI?
- a. NRAS and HRAS
 - b. PTEN and DICER1
 - c. BRAF and TERT
 - d. Molecular analysis did not yield a majority type of genetic abnormality.
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5. Radiofrequency ablation of thyroid nodules is most performed:
- a. Without any anesthetic
 - b. With local anesthetic
 - c. With IV sedation with local anesthetic
 - d. With general anesthetic
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6. What was the success rate for this procedure?
- a. 0-25%
 - b. 26-50%
 - c. 51-80%
 - d. 81-100%
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7. What was the rate of temporary voice change in this study?
- a. 0-2%
 - b. 2-4%
 - c. 4-6%
 - d. 6-8%
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8. The role pembrolizumab in the treatment of BRAFv-ATC:
- a. Is based on the presumed synergistic effect of upregulation of PD-L1 expression in BRAF inhibition.
 - b. Should be continued indefinitely in all patients.
 - c. Is not indicated if a patient has progression of disease on neoadjuvant dabrafenib plus trametinib.
 - d. Should not be used in the postoperative setting.

9. In the management of patients with BRAFv-ATC on neoadjuvant therapy, restaging should be performed:

- a. Every 2-4 weeks.
 - b. Every 4-6 weeks.
 - c. Every 8-12 weeks.
 - d. Every 6 months.
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10. A 30-year-old woman undergoes Total thyroidectomy for papillary thyroid carcinoma. The pathological staging is pT2, well differentiated papillary thyroid carcinoma. As per the hospital protocol in the peri operative period, it was decided to institute the ERAS protocol. Which of the following components should be included while optimizing the use of ERAS in the clinical care of this patient?

- a. preoperative thyroid function test
 - b. postoperative mobilization
 - c. preoperative antibiotics for 3 days
 - d. prophylactic calcium replacement
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11. A 43-year-old woman underwent Right hemithyroidectomy for compressive symptoms. Pathology revealed a 6 cm benign nodule. As per the hospital clinical care protocol, no drains were placed. The patient was discharged with appropriate analgesics and discharge instructions on the same day. Implementation of ERAS protocols have shown to have a reduction in which of the following metric for thyroid surgeries?

- a. Hospital length of stay (LOS)
- b. Complication rates
- c. Readmission rates
- d. 30-day mortality