Sentinel Lymph Node Biopsy: Review Questions

Bhupesh Vasisht, MD
Robert J. Silich, MD, FACS

QUESTIONS

Choose the single best answer for each question.

1. **Nuclear lymphoscintigraphy for the mapping of lymph nodes has been used in the management of lymph nodes in all of the following EXCEPT:**
   A) Cutaneous melanoma
   B) Breast carcinoma
   C) Soft tissue sarcoma
   D) Cutaneous Merkel cell carcinoma
   E) Squamous cell carcinoma

2. **All of the following statements regarding sentinel lymph node biopsy in malignant melanoma are true EXCEPT:**
   A) Absence of melanoma in sentinel lymph node biopsy accurately reflects the absence of melanoma in the remaining nodes in the region.
   B) The intraoperative identification and biopsy of a sentinel lymph node can accurately stage the entire regional nodal basin.
   C) Sentinel lymph node biopsy is often performed even in patients with clinically palpable nodes.
   D) If the sentinel lymph node is positive for melanoma, up to 20% of patients have additional positive nodes in the involved basin.
   E) Sentinel lymph node biopsy can reduce morbidity while maintaining accuracy in the selection of patients who require a formal dissection.

3. **Regarding lymph node metastasis in patients with melanoma, which of the following statements is FALSE?**
   A) In patients without clinical adenopathy, the 5-year survival is greater than 80%.
   B) In patients with lymph node involvement, the 5-year survival diminishes to below 50%.
   C) The number of positive nodes has been shown to have prognostic significance.
   D) Minimal incidence of nodal involvement occurs in melanoma less than 1 mm thick.
   E) Spread of the tumor beyond the nodal capsule does not affect prognosis.

4. **After an excisional biopsy, a 44-year-old woman with a 2-cm mass of the left upper outer quadrant proves to have a well differentiated infiltrating ductal carcinoma with positive margins. She has no clinically palpable axillary nodes. Which of the following is considered an appropriate next therapeutic measure?**
   A) Lumpectomy and sentinel lymph node mapping with a formal dissection
   B) Left modified radical mastectomy with immediate reconstruction
   C) Subcutaneous mastectomy and axillary irradiation
   D) Left radical mastectomy only
   E) Either lumpectomy and sentinel lymph node mapping with a formal dissection or left modified radical mastectomy with immediate reconstruction.

5. **A 50-year-old man presents with biopsy-proven subungual melanoma of his right great toe. The melanoma is 2.5 mm thick. The patient is otherwise healthy, but he complains of pain and a lump in his right groin. Examination confirms a mobile, hard, well-circumscribed mass in the right inguinal region. Which is the most appropriate treatment?**
   A) Amputation of the right great toe and observation
   B) Amputation of the right great toe and lymph node dissection of the right groin
   C) Irradiation of the right groin, then elective amputation of the right great toe
   D) Amputation of the right great toe and sentinel lymph node biopsy of the groin
   E) Radiation to the foot along with radiation to the nodal basin of the right groin

(turn page for answers)

Dr.Vasisht is Chief Resident in General Surgery, and Dr. Silich is Director of Surgical Oncology, Staten Island University Hospital, Staten Island, NY.

EXPLANATION OF ANSWERS

1. **(C) Soft tissue sarcoma.** Metastasis to a regional lymph node basin is a significant prognostic factor in both melanoma and breast cancer. More studies are being conducted to ascertain the value of lymph node mapping in nonmelanoma skin cancers. In squamous cell carcinoma, sentinel lymph node biopsy is reserved for select patients with deep local invasion. Merkel cell carcinoma is a rare malignancy that demonstrates locoregional spread. Soft tissue sarcoma demonstrates a hematogenous dissemination; therefore, lymphatic mapping is not useful.
2. **(C) Sentinel lymph node biopsy is often performed even in patients with clinically palpable nodes (FALSE).** If the sentinel lymph node is positive for melanoma, up to 20% of patients have additional positive nodes in the involved basin. Typically, this discovery of additional positive nodes is followed by a formal lymph node dissection of that nodal basin. Most studies confirm that the absence of melanoma in the sentinel lymph node truly reflects the absence of melanoma in the other nodes. Formal nodal dissection can be associated with significant morbidity; therefore, identifying the patients for whom the procedure is truly necessary can reduce the morbidity. If clinically palpable nodes exist in the regional basin, most physicians agree that a formal dissection is required for staging.
3. **(E) Spread of the tumor beyond the nodal capsule does not affect prognosis (FALSE).** The number of positive nodes as well as the spread of the tumor beyond the capsule have proven prognostic significance. The 5-year survival for patients with microscopic or clinical involvement of the node is between 33% to 50%. The survival is greater than 80% in patients with no clinical nodal involvement. Most physicians agree that nodal involvement is minimal with melanoma less than 1 mm thick.
4. **(E) Either lumpectomy and sentinel lymph node mapping with a formal dissection or left modified radical mastectomy with immediate reconstruction).** When invasive cancer is present, especially greater than 1 cm or with positive margins of resection, the axilla must be examined. The clinical examination, with an error rate of 25% to 30%, is not reliable in this situation. Sentinel lymph node biopsy, although still experimental, is useful in this situation. However, a learning curve is associated with the sentinel node biopsy procedure, and the procedure should be performed by an experienced surgeon. Currently, all sentinel node biopsies are followed by a formal dissection in most centers. Radical mastectomy has shown no survival advantage over modified radical mastectomy and is cosmetically less appealing and difficult to reconstruct.
5. **(B) Amputation of the right great toe and lymph node dissection of the right groin.** Amputation of the right great toe and dissection of the right groin has shown improved 5-year survival rate in patients younger than age 60 years. The thickness of the tumor, the characteristics of the tumor, and the age of the patient play a role in the treatment plan. In cases of clinically palpable nodes, sentinel lymph node biopsy has no role. Irradiation of the groin should not precede the amputation; irradiation by itself is not sufficient treatment for malignant melanoma.

GENERAL SURGERY

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