

Sentinel Lymph Node Biopsy for Nonmelanoma Skin Cancers

Megan Hoang

Introduction

A sentinel lymph node is the first lymph node where cancer cells are likely to spread from a primary tumor. Sentinel lymph node biopsy (SLNB) is a key technique used to stage and manage various cancers, including nonmelanoma skin cancers. This procedure helps doctors understand how far the cancer has spread.

The Role of SLNB in Skin Cancer

SLNB was first used to find cancer that spread to the lymph nodes of melanoma patients. It has since been used for other cancers like breast cancer. Research shows that SLNB is a safe and effective way to check lymph nodes for cancer. The status of the sentinel lymph node is one of the strongest indicators of how melanoma will progress.

Nonmelanoma skin cancers that might spread to lymph nodes include squamous cell carcinoma, Merkel cell carcinoma, and sebaceous carcinoma. For these cancers, SLNB helps doctors decide the best treatment and follow-up care.

When is SLNB Used for Nonmelanoma Skin Cancers?

For squamous cell carcinoma, SLNB is considered if the tumor is larger than 2 cm, has spread to nearby lymph nodes, is poorly differentiated, has deeply invaded beyond the fat layer, has greater than 5 mm depth of invasion, is recurrent, has lymphovascular invasion, occurs in a scar, or if you (the patient) is immunocompromised.

For Merkel cell carcinoma, SLNB is used if the lesion is larger than 1 cm and the lesion is smaller than 1 cm but shows more concerning signs of spreading. For sebaceous carcinoma, SLNB is considered for tumors larger than 2 cm with signs of spreading. For other

nonmelanoma skin cancers, SLNB is considered if the estimated risk of hidden spreading is greater than 10%.

The Procedure

SLNB is usually done at the same time as the removal of the primary tumor. During the procedure, a radioactive tracer and/or blue dye is injected near the tumor to find the sentinel lymph node. A special probe detects the node with the tracer or dye. The sentinel lymph node is then removed and examined for cancer cells. If cancer is found, more lymph nodes may be removed to check for further spread.

Risks and What to Expect

SLNB is generally safe, but it can have some risks, including infection, minor bleeding or bruising, swelling due to lymph fluid buildup, or allergic reactions to the dye. Most patients can go home the same day. You might feel mild pain or discomfort at the biopsy site, which can be managed with over-the-counter pain relievers. Normal activities can usually be resumed in a few days, but avoid strenuous activities until your doctor says it's okay.

Recovery

Recovery from SLNB is typically quick. You might have some swelling, bruising, or soreness at the biopsy site. Keep the area clean and dry to prevent infection. Your doctor will give you specific care instructions and tell you what signs of complications to watch for. Follow-up appointments are important to discuss the biopsy results and any further treatment needed.

References

1. Morton DL, Wen DR, Wong JH, Economou JS, Cagle LA, Storm FK, Foshag LJ, Cochran AJ. Technical details of intraoperative lymphatic mapping for early stage melanoma. *Arch Surg.* 1992 Apr;127(4):392-9. doi: 10.1001/archsurg.1992.01420040034005.
2. Morton DL, Cochran AJ, Thompson JF, Elashoff R, Essner R, Glass EC, Mozzillo N, Nieweg OE, Roses DF, Hoekstra HJ, Karakousis CP, Reintgen DS, Coventry BJ, Wang HJ; Multicenter Selective Lymphadenectomy Trial Group. Sentinel node biopsy for early-stage melanoma: accuracy and morbidity in MSLT-I, an international multicenter trial. *Ann Surg.* 2005 Sep;242(3):302-11; discussion 311-3. doi: 10.1097/01.sla.0000181092.50141.fa.
3. Pavri SN, Clune J, Ariyan S, Narayan D. Malignant Melanoma: Beyond the Basics. *Plast Reconstr Surg.* 2016 Aug;138(2):330e-340e. doi: 10.1097/PRS.0000000000002367.
4. Sethi R, Emerick K. Sentinel Node Biopsy for Nonmelanoma Skin Cancer of the Head and Neck. *Otolaryngol Clin North Am.* 2021 Apr;54(2):295-305. doi: 10.1016/j.otc.2020.11.005.
5. Matthey-Giè ML, Boubaker A, Letovanec I, Demartines N, Matter M. Sentinel lymph node biopsy in nonmelanoma skin cancer patients. *J Skin Cancer.* 2013;2013:267474. doi: 10.1155/2013/267474. Epub 2013 Feb 14.
6. Wilson MW, Fleming JC, Fleming RM, Haik BG. Sentinel node biopsy for orbital and ocular adnexal tumors. *Ophthalmic Plast Reconstr Surg.* 2001 Sep;17(5):338-44; discussion 344-5. doi: 10.1097/00002341-200109000-00008.
7. Ho VH, Ross MI, Prieto VG, Khaleeq A, Kim S, Esmaeli B. Sentinel lymph node biopsy for sebaceous cell carcinoma and melanoma of the ocular adnexa. *Arch Otolaryngol Head Neck Surg.* 2007 Aug;133(8):820-6. doi: 10.1001/archotol.133.8.820.

8. Owen JL, Kibbi N, Worley B, Kelm RC, Wang JV, Barker CA, et al. Sebaceous carcinoma: evidence-based clinical practice guidelines. *Lancet Oncol*. 2019 Dec;20(12):e699-e714. doi: 10.1016/S1470-2045(19)30673-4.
9. Sevensma KE, Lewis CR. Axillary Sentinel Lymph Node Biopsy. 2023 Jul 3. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan–.