Sentinel Node Biopsy Has Role in Thin Melanoma

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MAUI, HAWAII — Now that sentinel lymph node biopsy has become the standard-of-care staging procedure in intermediate-thickness melanoma, the focus has expanded to include identification of patients with thin melanomas who have novel high-risk features that also warrant sentinel node biopsy, Dr. Merrick Ross said at the annual Hawaii Dermatology seminar sponsored by Skin Disease Education Foundation.

Although the prognosis of thin melanomas is generally quite favorable, there is considerable heterogeneity. Buried within the very large population of patients with melanomas not more than 1.0 mm thick are subgroups with biologically aggressive disease, he noted.

"The thin melanoma population is important. Everyone says they have such a good prognosis. Why even bother with sentinel node biopsy? Because they represent a very high percentage of newly diagnosed invasive melanoma patients. Although only a small percentage of them go on to develop stage IV disease and die, that small percentage represents a relatively large percentage of stage IV patients. So it's very important not to lump them all together as good performers," explained Dr. Ross, professor of surgery and chief of the melanoma section at M.D. Anderson Cancer Center and the University of Texas, Houston.

It is clear that performing sentinel lymph node (SLN) biopsy in all patients with thin melanoma wouldn't be cost effective. Surgeons at Ohio State University, Columbus, reviewed their prospective melanoma database and found a 1.4% prevalence of SLN positivity in 138 unselected thin-melanoma patients. They estimated the cost to identify a single patient with a positive SLN at $700,000 to $1 million (Surgery 2003;134:542-7).

"That's clearly not a cost-effective maneuver. But what if you could increase that positivity rate by 10-fold and make it 14%? Obviously the cost of finding a positive SLN goes way down," he observed.

Among the promising biologically based prognostic factors for enriching the yield of SLN biopsy in patients with thin melanomas are mitotic rate, vertical growth phase, and the presence of tumor-infiltrating lymphocytes. Add these biologic risk factors to other predictors—ulceration, evidence of tumor regression, male gender, younger age, and/or location on the trunk or a lower extremity—and the prospects for risk stratification look quite good, Dr. Ross said.

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In a recent series of 882 patients with thin melanomas dating back to the pre-SLN era, surgeons at the University of Pennsylvania, Philadelphia, found that those whose tumors were in the vertical growth phase and had a mitotic rate greater than zero had an 11.9% prevalence of regional nodal disease (Ann. Surg. Oncol. 2006;13:533-41).

While this and other studies of novel biologic risk factors for SLN positivity are promising, they need to be validated in other thin-melanoma databases before gaining acceptance in routine clinical practice.

For now, the practice at M.D. Anderson and the other major cancer centers is to recommend SLN biopsy for stage IB-IIC melanoma based upon the positive results of the landmark 1,269-patient Multicenter Selective Lymphadenectomy Trial (N. Engl. J. Med. 2006; 355:1307-17), and to selectively biopsy in stage IA patients with high-risk features, according to Dr. Ross.

He noted there has been concern that wide excision of the primary tumor might disrupt the local lymphatic system and render SLN biopsy inaccurate. A review of the M.D. Anderson experience showed that surgeons were still able to identify the SLN following wide excision, but it required examination of a greater number of lymphatic basins.

"We still ultimately identified the right node, but we had to do more surgery to identify the sentinel node after wide excision," he said.

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