Prebiopsy Photos Help Prevent Wrong-Site Surgery

BY SUSAN LONDON
Contributing Writer

VANCOUVER, B.C. — Photographing cutaneous lesions before biopsy can help prevent wrong-site surgery when the lesions prove to be malignant and patients must undergo Mohs excision of the remaining tumor, according to an observational study of 271 biopsy sites.

Factors such as healing and actinic skin damage can make it difficult to identify biopsy sites at the time of Mohs surgery, Dr. Jamie L. McGinness, a dermatologic surgeon in Leawood, Kan., and Lee's Summit, Mo., said at the annual meeting of American College of Mohs Surgery.

In a previous survey of Mohs surgeons, other investigators found that 11% of the 300 respondents had been sued and that performing surgery on the wrong site was a leading reason for the malpractice claims, accounting for 14% (Dermatol. Surg. 2006;32:79-83).

For their study, Dr. McGinness and his coinvestigators enrolled patients who were undergoing Mohs surgery with any of four physicians at the center for a previously biopsied, malignant cutaneous lesion who could see their biopsy site using a mirror, and who had preoperative photographs of their biopsy site. Those with conditions that impair memory were excluded.

Performing surgery on the wrong site was behind 14% of the lawsuits brought against Mohs surgeons.

DR. McGINNESS

On the day of Mohs surgery, patients were given a mirror and asked to identify their biopsy site. Next, their Mohs surgeons were asked to identify the site using the anatomic information on the pathology report, the diagrammed location, and palpation. Neither the patient nor the physician was further assisted with the identification process.

In all, 271 biopsy sites were evaluated. Fully 16.6% of sites were incorrectly identified by patients and 5.9% were incorrectly identified by physicians. About 4.4% were incorrectly identified by both parties. In contrast, all sites were correctly identified with the use of preoperative photos. The results suggest that neither patients—even confident ones—nor diagrams are reliable means for identifying biopsy sites, Dr. McGinness said.

If a biopsy site cannot be identified at the time of surgery, the options are to proceed anyway—at the risk of wrong-site surgery—or to cancel surgery. "When surgeries are cancelled, this leads to higher patient inconvenience, untreated tumors that could metastasize, larger tumors when they again become observable, and increased patient morbidity," Dr. McGinness commented.

All of the patients underwent surgery an average of 2-3 weeks after biopsy, and he recommended that future research evaluate the role of this time interval. "With longer wait times between biopsy and surgery, lesions could heal and the rates [of incorrect identification] could actually be even higher," he explained.

Dr. McGinness reported no conflicts of interest related to the study. ■

Healing and actinic skin damage can make it hard to identify the biopsy site before surgery.

By using a prebiopsy photograph, the surgeon located the biopsy site and removed the tumor.

PHOTOS COURTESY DR. JAMIE L. MCGINNESS

Nicks, Annotations Also Reduce Chance for Error During Mohs

BY MICHELE G. SULLIVAN
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WILLIAMSBURG, VA. — Consistent application of tissue nicks and annotated tissue transfer cards can significantly reduce the chance of error in Mohs surgery.

"Recurrence after Mohs surgery is very low, only 1%-2% at most, but when we look at the reasons behind those recurrences, 75% are due to human error, and of these, 10% are due to incorrect mapping and excision," said Dr. Tri H. Nguyen, director of Mohs micrographic and dermatologic surgery at the University of Texas M.D. Anderson Cancer Center, Houston.

"This includes tissue-orientation mistakes, mapping inaccuracies, mislabeling of sections or slides, and insufficient resection," Dr. Nguyen said at a meeting of the American Society for Mohs Surgery.

He methodically employs a system of identification strategies that nearly eliminates the chance of orientation errors, but an informal survey of fellowship programs showed that few physicians may be using this same level of caution.

Dr. Nguyen asked his residents about orientation techniques taught in the 14 Mohs fellowship programs for which they applied. Only three programs used preprinted maps, and only one used preprinted tissue transfer cards. Only five programs used tissue nicks to orient the sample, and only two of those used double nicks to add an extra layer of security.

"There are tremendous variations in the way we practice mapping and orientation, and probably all are adequate for primary, low-risk, single-stage Mohs resections," he said. "We run into problems with high-risk tumors with multiple convolutions or convexities, and in surgeries with multiple stages and multiple sites."

Anatomical maps and transfer cards can help reduce these problems. The cards have preprinted maps with illustrations of anatomical areas, and they also absorb moisture from specimens, which decreases the chance that they will shift position or fall off during the transfer. Corresponding paper maps have the same information printed on them.

"We have preprinted maps and transfer cards for every conceivable [anatomical area] on the head and neck, and blank ones for drawing locations on the extremities," Dr. Nguyen said.

Strategic tissue nicking adds a second layer of security to the surgery. "The argument over tissue nicks is pointless. There is no doubt that a properly made nick of the patient and the excised tissue leaves an indelible mark to go back and orient your sample," he said.

Single nicks, however, aren't sufficient. "With a single, there is always a chance the tissue will get dropped or shifted and you will lose the accuracy of your orientation. If you have a second nick consistently placed, you will always know exactly how the tissue is oriented. Two nicks ensure specimen orientation with or without" an anatomical transfer card, Dr. Nguyen said.

In double nicking, there should be a little space between the incisions. "If you place the second nick close to the peripheral edge, you are prone to tissue folding, which can mask tumor," he said. ■

Prophylactic Antibiotics Before Surgery Unnecessary in Most

BY MICHELE G. SULLIVAN
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WILLIAMSBURG, VA. — Patients with prosthetic cardiac valves and recently implanted joint prostheses are among the few who should receive prophylactic antibiotics before surgical procedures, according to a dermatologic surgeon.

Prosthetic devices sometimes grow coagulase-negative *Staphylococcus aureus*, which can cause a life-threatening endocarditis or, in the case of joint prostheses, an intra-articular infection that can necessitate replacement of the device. "If a patient [in these categories] comes to me for surgery and has not been prophylaxed, I will not do the procedure," said Dr. Stephen Spencer of Port Charlotte, Fla.

Neither of the guidelines that address prophylactic antibiotics—the 2007 guidelines for preventing infective carditis and the 2003 guidelines for preventing hematogenous total joint infections—specifically deal with dermatologic surgery, but dermatologists can rationally extrapolate the recommendations to their own patients, Dr. Spencer said at a meeting of the American Society for Mohs Surgery.

For patients with prosthetic cardiac valves, the American Heart Association guidelines recommend 2 g of amoxicillin orally 30-60 minutes before the procedure. Penicillin-allergic patients can take cephalexin, clindamycin, or azithromycin (Circulation 2007;116:1736-54).

Patients who have had a total joint replacement in the past 2 years should take 2 g of cephalexin, cephradine, or amoxicillin 60 minutes before surgery. Penicillin-allergic patients can take clindamycin. Choices for injected antibiotics include clindamycin, cefazolin, or ampicillin, according to guidelines issued by the American Dental Association and the American Academy of Orthopedic Surgeons (J. Am. Dent. Assoc. 2003;134:895-9).

For most other patients, including healthy individuals with joint replacements more than 2 years old, the risks of adverse events associated with antibiotic treatment probably outweigh any potential benefit it might have in preventing infective complications, including infective endocarditis, said Dr. Spencer.

"Very few healthy people need these preoperative antibiotics," he said, citing a 2006 study from Australia that found an extremely low rate of wound infection after dermatologic surgery in the absence of prophylactic antibiotics (Dermatol. Surg. 2006;32:819-26).

The 3-year study included 5,091 lesions treated on 2,424 patients, none of whom received preoperative antibiotics. The overall infection incidence was 1.5%, and many individual procedures had similarly low rates: curettage (0.7%); skin flap repairs (3%); simple excision and closure (0.5%). Skin grafts and wedge excisions had higher rates (9% each).

The investigators concluded that surgery to the nose, ear, fingers, and lips; skin flap surgery; and surgery on diabetics, smokers, and those on anticoagulants did not warrant prophylactic antibiotic treatment. They did recommend antibiotics for procedures below the knee, wedge excisions of lip and ear, all skin grafts, and lesions in the groin, Dr. Spencer noted. ■