

Mohs Map Stakes Out Surgeon's Course of Action

BY HEIDI SPLETE
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SAN DIEGO — Mohs surgery requires meticulous mapping.

A Mohs map preserves the integrity between the surgical wound and the histologic findings on the slides, Dr. Howard Steinman said at a meeting sponsored by the American Society for Mohs Surgery.

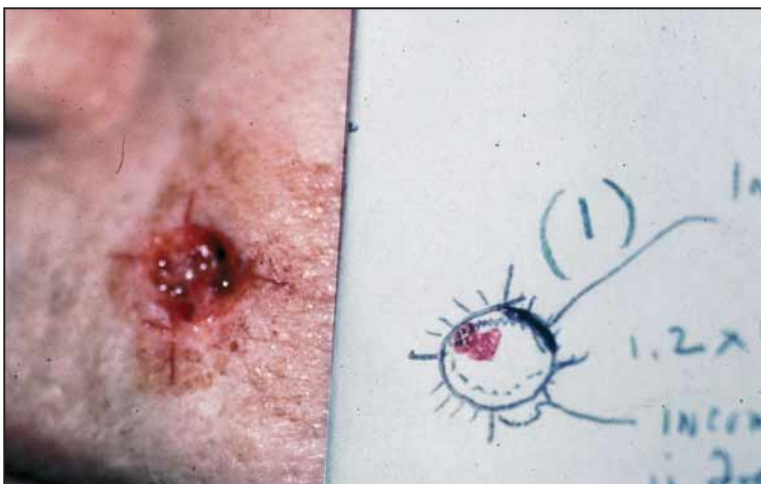
An accurate, readable Mohs map must show the wound shape and the location of reference marks for correct orientation. It also must depict the location of tumor and other findings in the surgical area, such as scars, unrelated tumors, and incomplete margins, he said.

The map is essential for avoiding orientation errors and serves as a pictorial representation of the pathology report. It is also a medicolegal document, and surgeons can and will rely on it to help remember what they did in any given case. The map is critical for communication with lab technicians and consulting physicians, and it serves as part of the operative report. As such, it is vital in the event of a lawsuit.

"The map is the only pathology report you have," said Dr. Steinman, a dermatologist in private practice in Chula Vista, Calif. "A good map will tell you what you did for a particular patient when you look at it years later."

In addition to tumor foci, the map must document incomplete surgical margins. "You want to be able to mark that there was an incomplete skin edge, to document why you needed to take another layer of tissue," Dr. Steinman pointed out.

Although mapping using digital photography is likely the wave of the future, it's worth developing a strategy for creating a functional Mohs map using other methods. Some surgeons use preprinted anatomic diagrams, whereas others use hand-drawn sketches or nondigital photographs. A representational shape of the wound is okay; it doesn't have to be precise. The map should be drawn larger than the actual size of the wound, however, so it will be easier to



These images show a Mohs map and the wound that it documents. Note the complementary inking patterns between the map and wound.

correlate findings between the microscope slides and the surgical wound, he said.

Before any tissue is processed, the Mohs map must include patient information, clinical information, the exact location of reference marks, and the wound shape. During tissue processing, the map depicts specimen subdivision patterns, tissue section-numbering schemes, and tissue inking patterns.

During the procedure, the Mohs map is essential for documenting the surgery, processing tissue, and maintaining orientation of the specimen and microscope slides to the wound. After the procedure, the map is an essential record of the work that was performed. When marking findings, most surgeons mark tumor foci in red and other findings in black on the map.

Tissue inking must be accurately drawn on the map and must appear the same both through the microscope and on the map. Inking orients and differentiates tissue specimens, and must be visible on the processed tissue wafers. Dr. Steinman recommends using a consistent drawing symbol for



Subdividing a specimen with a 'Pac-Man' incision provides an internal orientation.

each color. "Pick one set of symbols and be consistent; use it for the rest of your career," he said. When subdividing large specimens, ink opposing cut edges the same color.

"I ink my specimens first and then mark the map, because if I mark the map first and do not ink the tissue accordingly, I have to go back and change the map," he said. Although Dr. Mohs used red as a tissue ink, many surgeons today favor blue, black, or green, because they are easier to see on the microscope slides.

Dr. Steinman tries to process the least number of tissue sections for each Mohs stage, processing specimens as one piece when possible. A consistent inking pattern should be developed for small, circular-shaped specimens, the most common

first-stage specimen shape. Dr. Steinman uses blue ink from the 9:00-12:00 reference marks and black ink from 12:00-3:00. He places a green dot at the 6:00 mark on a specimen. Another method is to simply place ink into the four reference nicks of the specimen. "The important thing is to pick a method and be consistent," he said.

In addition, making a "Pac Man" incision to subdivide a specimen can offer an internal orientation. "When you cut a surgical specimen in half or quarters and use only two ink colors along their cut edges, you have created identically shaped pieces. You then need to place a third color on only one of each pair," Dr. Steinman said. "The third color is vital to preserve orientation."

Be aware of dense inflammation, which often masks tumor. "If you see dense inflammation on your first or second tissue wafers, tumor may be present in the wound base that requires another stage of Mohs surgery," Dr. Steinman said. Respect the dense inflammation and mark it on the Mohs map.

Establish orientation when examining slides by drawing a line radiating from the 12:00 point of the tissue wafer. Draw the line directly on the slide with a red pen. Also mark the tumor foci on appropriate wafers. This allows the slide to be held directly over the map, and findings can be oriented and drawn on the map more easily, he explained. ■

Assessing Patients for Mohs Surgery Is Both an Art and a Science

BY HEIDI SPLETE
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SAN DIEGO — The decision for or against Mohs surgery must be based on a combination of criteria that includes histology, anatomy, type of patient, and type of tumor, Dr. Lynn Proctor Shipman said at a meeting sponsored by the American Society for Mohs Surgery.

Recurrent basal cell or squamous cell carcinomas are among the strongest indicators for Mohs surgery, said Dr. Shipman of the University of California, San Diego.

The advantages of Mohs surgery include a high cure rate and its status as an outpatient procedure (except in very difficult cases) that often preserves more tissue than do other cancer treatments. The disadvantages include the expense of staff and equipment and the need for specialized surgical training. Mohs also can be time consuming and tedious, and the procedure can be traumatic for the patient, she said.

There are no solid recurrence data com-

paring tumor treatment modalities. The differences among tumors, among patients, and among surgeons do not make for effective controlled studies, Dr. Shipman noted.

However, Mohs has demonstrated higher cure rates for primary and recurrent basal cell and squamous cell carcinoma compared with other treatments, including radiation.

Not all patients make good candidates for Mohs surgery. A frail or elderly patient, or a patient who would be too traumatized by the size of the defect in a Mohs procedure, should not receive the procedure (SKIN & ALLERGY NEWS, August 2005, p. 1).

Factors that make someone a good candidate for Mohs are the presence of infiltrating or micronodular tumors, aggressive tumors, or perineural invasion.

Dr. Shipman suggested that Mohs surgeons assessing patients should remember the five Cs:

1. Cure. The first treatment has the highest chance of cure, and Mohs cure rates are higher than those of other modalities.

2. Complications. Consider the medical status of the patients. Take a patient's blood pressure before you operate, and be aware of his or her medications.

3. Cosmesis. Mohs is often touted as tissue sparing, although preservation of function should be the most important goal. That said, a Mohs surgeon can often satisfy patients with a functional and cosmetically acceptable outcome.

4. Convenience. Although some waiting time is involved, Mohs is reasonably convenient for most patients.

5. Cost. Mohs is expensive, but radiation can be more expensive, and the cost of treating recurrent tumors can add up. Be sure to document the reasons for Mohs surgery in the patient's records to ensure Medicare coverage.

Certain anatomic sites with high recurrence rates are also indications for Mohs surgery.

The nose, for instance, is the bread and butter of Mohs. "There's almost never a day when I don't operate on the nose, especially the nasal tip," Dr. Shipman said. Mohs also is indicated for functionally sig-

nificant sites, such as the finger, and in cases when a favorable cosmetic result is desired.

Immunocompromised patients are often candidates for Mohs surgery because of their increased susceptibility to tumors. "The longer they have been on immunosuppressant drugs, the greater the risk of tumor formation," Dr. Shipman noted. Unlike other patients, immunocompromised patients have a higher risk of squamous cell carcinoma than of basal cell carcinoma, particularly among cardiac patients, she added.

It is also important to remember that Mohs is not always successful, and is not recommended for oral, pharyngeal, or laryngeal tumors.

"Remember that many tumors require adjunctive therapy and a multidisciplinary approach for successful resolution," Dr. Shipman said.

Surgeons who are just beginning to perform Mohs surgery should consult colleagues from other disciplines before tackling multifocal or aggressive tumors, she emphasized. ■