PDT and Pressure Dressing May Avoid Keloid

Procedural, topical measures improve efficacy of surgery; communication and prevention are ideal.

BY SHERRY BOSCHERT
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LAS VEGAS — Treatment of keloids or hypertrophic scars with surgery alone is almost guaranteed to fail, but there are theories as to which of the many potential adjunctive therapies might be best, and how best to combine treatments, Dr. Jimmy J. Brown said.

The most promising upcoming therapies for keloids and hypertrophic scars may be pulsed dye laser and photodynamic therapy.

Dr. Brown and two other experts described their preferred treatment regimens at an international symposium sponsored by the American Academy of Facial Plastic and Reconstructive Surgery.

Developing a strong bond between the physician and patient is paramount for successful management of these challenging lesions, especially for giant keloids, said Dr. Brown of Charles R. Drew University of Medicine and Science, Los Angeles.

Dr. Brian J. F. Wong said that most current treatment regimens use some combination of surgery, pressure, silicone gels or sheeting, and steroid injections, based mainly on ad hoc and anecdotal reports. "It's a very confusing body of literature," said Dr. Wong of the University of California, Irvine.

Even with combination therapy, 50% of keloids and hypertrophic scars recur, he noted.

Prevention is the best strategy, Dr. R. James Koch emphasized. Studies show that African Americans and possibly people of Chinese ancestry are at higher risk to develop keloids, compared with whites. Many things can cause keloids, including surgery, burns, skin piercing, lacerations, abrasions, and tattoos. Patient who may be predisposed to keloids should avoid nonessential surgery, said Dr. Koch of Palo Alto, Calif.

After surgery alone, keloids recur in 45%-100% of cases. Adding radiation therapy may reduce the recurrence rate to 10%-20%, the literature suggests, but its use is not standardized. No one knows when best to use it, how much to use, or whether fractionated protocols are beneficial, he pointed out.

Some physicians use a single postoperative dose of radiation in some patients. Dr. Brown cautioned that most radiologists prefer to use low-dose radiation for patients with keloids because it is a benign disease, but this may increase the risk for later development of radiation-related malignancy. He knows of three patients who developed squamous cell carcinoma in a keloid site after postoperative radiation therapy.

His immediate postoperative care comprises topical imiquimod (Aldara) cream 5% once a day and a pressure dressing; the wound is kept tension free. The jury is still out on imiquimod's usefulness for keloids, Dr. Brown said. His anecdotal experience suggests that using positive pressure splints once the surgical wound is healed is important to prevent keloid recurrence. It may be necessary to create pressure devices, such as a clothespin on an earlobe, after keloid removal, he suggested.

"If we can get away with excision, Aldara, and pressure therapy, we may not need radiation," he said.

He generally stops imiquimod after 8 weeks, although he will interrupt therapy earlier if the wound starts to break down where it was applied. This is not a debilitating problem, and the drug can be restarted after the wound heals, he said.

Intralesional corticosteroid injections should be a key part of treatment, Dr. Koch and Dr. Brown agreed.

Dr. Koch typically treats keloids with excision, but one shouldn't compromise anatomic structures to remove all of the keloid at once, he said. It may be done in stages. He avoids wound tension and may add pressure therapy. Intralesional steroids begin at least 2-3 weeks after surgery, and he also may use silicone gel.

COURTESY DR. R. JAMES KOCH

A combination of surgery, topical imiquimod, and pressure therapy may stave off the need for radiation.

For hypertrophic scars, Dr. Koch performs scar revision surgery and will start intralesional steroids at the first sign of hypertrophic scar recurrence. He also said he may use compression or silicone gel.

The most promising upcoming therapies for keloids and hypertrophic scars may be pulsed dye laser and photodynamic therapy (PDT), Dr. Wong said. Keloids are hypervascular lesions, and the pulsed dye laser disrupts blood supply, using a very narrow, local heat effect to trigger apoptotic mechanisms. When he removes a keloid, he sends the patient to a dermatologist for targeted pulsed dye laser therapy.

Studies of PDT for cancer have shown that it does not successfully treat malignancies but seems to decrease scar formation. Since PDT has no ionizing radiation, it can treat the keloid while preserving the normal tissue matrix. Dr. Wong plans to begin using PDT in patients with refractory keloids soon. "It's like a neutron bomb—you can kill the occupants but leave the house intact," he said. "There's no downside in the correct patient."

Dr. Koch was less enthusiastic about flashlamp and pumped pulsed dye laser therapy for keloids. This strategy mainly helps take the red out of the lesions, he said. ■

Metaanalysis Yields Mixed Results in Keloid, Hypertrophic Scar Treatment

Most of the available treatments for keloids or hypertrophic scars offer a minimal likelihood of improvement, a metaanalysis suggests.

The metaanalysis of results from 70 trials found a 70% chance of improvement from treatment. The management regimens improved lesions by a mean of 60%, compared with baseline, and a few therapies were no better than observation alone, Dr. Douglas Leventhal reported in a poster presentation at the international symposium.

There is no universally accepted treatment regimen for keloids or hypertrophic scars and no evidence-based literature to help clinicians choose from among the many treatment options that have already been tried. Management has evolved over the years from crude, invasive methods such as gross excision and radiation to intralesional or topical agents that work on a cellular level, wrote Dr. Leventhal of Jefferson Medical College, Philadelphia.

Some current treatments for keloids or hypertrophic scars may provide clinically significant improvements, but results fall far short of a cure, he concluded.