Ulcerated Hemangioma Studies Are Lacking

BY SHERRY BOSCHERT

SAN FRANCISCO — The various treatments for ulcerated hemangiomas each help some patients, but some treatments can make a number of patients worse, and it's difficult to know in advance who will be helped or harmed.

The medical literature provides little guidance on the management of ulcerated hemangiomas, Dr. Annette Wagner said at a meeting of the Society for Pediatric Dermatology.

Applying wound barriers to ulcerated hemangiomas reduces the pain of contact, and the ulceration usually heals in 1-2 months. To help preserve the skin edge along the ulceration, make a border of DuoDERM around the edge and leave it on the skin as adhesive dressings are applied or removed, suggested Dr. Wagner, a pediatric dermatologist at Northwestern University, Chicago.

Surprisingly, only one study in the medical literature has compared other treatments for ulcerated hemangiomas.

Among 22 of 60 patients who were treated with 2-3 mg/kg of oral steroids, which are considered the first-line treatment beyond barriers, ulcerations did not respond in 5 (23%). Of the seven patients who received intralesional Kenalog (triamcinolone acetonide), which can be useful for localized, nodular hemangiomas, four (57%) improved, two (29%) did not, and one (15%) worsened. Among 22 patients treated with pulsed dye laser in that study, the ulcerations improved in 11 (50%) but worsened in 1 (5%) patient (J. Am. Acad. Dermatol. 2001;44:962-72).

"For all of these treatments, there's the same story. For some patients, they seem to work really well, but not for all patients. It's difficult to know in whom it will be effective," she said.

Also in that study, five patients were treated with interferon and had no neurologic sequelae, and two patients had their ulcerated hemangiomas excised. Dr. Wagner does excise some smaller nodular ulcerated hemangiomas to end the pain, since "you're going to end up with a bad scar anyway."

There have been at least five case series of ulcerated hemangiomas treated with pulsed dye laser published between 1991 and 2006. The reports varied in the levels of energy used, the intervals between treatments, and response rates.

"The most important thing is, if you treat with laser, it really seems to help with pain control after one treatment," she said. The second most important thing to keep in mind is that laser can harm patients. A previous report of laser treatment on nonulcerated hemangiomas found that treatment caused ulceration, serious bleeding, and bad scarring in some patients.

"You have to use this tool with great caution," Dr. Wagner advised. "I never laser during that early proliferative phase in nonulcerated areas of hemangioma."

An initial trial using off-label becaplermin gel (Regranex) to treat ulcerated perineal hemangiomas that had superficial or mixed morphologies healed them in an average of 10 days, with a range of 3-25 days (Arch. Dermatol. 2002;138:314-6).

Regranex, which is approved to treat diabetic foot ulcers, is a recombinant platelet–derived growth factor that seems to increase fibroblast proliferation and differentiation to help heal ulcerated hemangiomas. It also can lead to more granulation tissue and bleeding, however, so clinicians should be selective in using it, Dr. Wagner cautioned.

She believes Regranex works best on hemangiomas that have a fibrin base and sort of "punched out" ulcerations without a lot of red granulation tissue, "almost like chronic wounds." On the other end of the wound spectrum, she never treats "activated, kind of goopy" wounds with Regranex, which could make them worse.

A black-box warning issued last year by the Food and Drug Administration about Regranex stemmed from evidence that patients with a history of cancer had an increased risk of death after using more than three tubes of Regranex.

Dr. Wagner reported having no potential conflicts of interest. ■

Nine Tips for Effective Laser Treatment

Preparation, pain management, debridement, and sufficient laser energy are keys to successful pulsed dye laser treatment for ulcerated hemangiomas, Dr. Wagner said.

She sees 65-75 patients a month with hemangiomas, 28-30 of which are ulcerated, and she treats ulcerations with a pulsed dye laser 12 times per month on average. She offered these tips from her experience:

► **Manage pain.** Give the child acetaminophen an hour before laser treatment. Dr. Wagner also uses a topical anesthetic cream but doesn't find that it makes much difference. Explain to parents that the laser treatment is not much worse than the pain of an open ulcer. It may be even better to offer to apply the laser to the parent's forearm first. That usually dispels their fear, she said.

► **Be prepared.** Before you pick up the baby, have the laser set, get the nurses in the room, prepare the dressings and whatever is going to go on them, and make sure the parents are seated. The child is on the table and back into a parent's arms within 1 minute.

► **Do no harm.** This tool can injure, so be cautious. Ulceration will worsen in a subset of patients. Don't re-treat with a laser if the first round made things worse.

► **Where to laser?** Nobody really knows. She lasers open areas in the ulceration and along the rolled edge to try to stimulate cytokine production. Sometimes she'll apply the laser to dark, dusky areas that look like they're about to ulcerate.

► **Debride.** It's not clear how laser treatment helps ulcerated hemangiomas, but it does affect cytokines, and for that living tissue must be treated. Be sure to debride to reach living tissue.

► **Use sufficient energy.** There seems to be a window between 6 and 8 J/cm^2 that provides enough energy to have an effect without causing injury, but no one really knows the best setting.

► **Dry the field.** Before the laser is used, dry the field not only to get debris out, but to prevent splattering. Prepare for bleeding during the procedure, especially if the child has been treated with Regranex (becaplermin). Inform parents to expect more bleeding in the operating room and in the postoperative period, especially from ulcerations in the genital area.

► **Cover the wound.** Do this after laser treatment for pain control.

► **Re-treat?** No study has looked at optimal intervals between laser treatments for ulcerated hemangiomas. Dr. Wagner sees patients again in 2 weeks, although she will occasionally see some patients sooner.

Ulcerated Hemangioma Management Practices Revealed

BY SHERRY BOSCHERT

SAN FRANCISCO — High-dose oral steroid treatment can make an ulcerated hemangioma worse, and nobody really knows what to do when that happens, according to an online survey of 77 pediatric dermatologists.

The January 2009 survey of Society for Pediatric Dermatology members provides a snapshot of current management practices for ulcerated hemangiomas, which are guided more by anecdotal reports and clinician intuition than by trials and evidence, Dr. Annette Wagner said at a meeting of the Society.

Almost 80% of respondents said they see one to five patients each month with ulcerated hemangiomas and others see more. Most believe that each of several treatments are at least somewhat effective—barriers, antibiotics, oral steroids, debridement, or off-label topical becaplermin gel (Regranex). Approximately 40% said oral propranolol can help.

Most of those surveyed rated topical steroids or topical imiquimod as ineffective, added Dr. Wagner, a pediatric dermatologist at Northwestern University, Chicago.

When asked if high-dose steroids worsen ulcerations, more than half said they had seen this rarely, and approximately 5% said it was a frequent problem.

"There's always a question in my mind" about the possibility of high-dose steroids worsening ulcerated hemangiomas, and the findings confirm that this does happen, Dr. Wagner said.

When steroids do worsen an ulceration, close to half of physicians surveyed increased the dose, approximately a quarter of them decreased the dose, and another quarter make no changes.

On average, the most common first-line treatment is a barrier with a topical antibiotic. "When that doesn't work," she reported, "we use oral antibiotics," the survey findings suggest.

Pulsed dye laser is the favored next-line treatment, followed by oral steroids, then Regranex. "Those are the mainstays of how we are managing ulcerated hemangiomas," she said.

Vaseline gauze is the preferred dressing, with nearly as many favoring DuoDERM, and a small proportion preferring Mepitel, a nonadherent silicone dressing.

The top choice in antibiotics was metronidazole gel (MetroGel), followed closely in popularity by mupirocin. Most respondents said they do not use propranolol to treat ulcerated hemangiomas; of those who do, most use it rarely.

Close to a third of respondents do not treat with pulsed dye laser. Of those who do, half use it rarely.

More than 40% of respondents do not use Regranex to treat ulcerated hemangiomas. Those who do use it were more likely to prescribe it rarely than frequently.

To Dr. Wagner, this suggests Regranex is underused, given the benefits she's seen with it.

Most respondents said they rarely or never debride ulcerated hemangiomas, and some even suggested that the ulcer's crust should be left on for pain control. "I completely disagree," she said. "You need to get the wound to heal, so you need to get the crust out."

Those who do debride are most likely to do mechanical debridement in the office, while approximately a third would have the patient apply peroxide at home, and fewer would apply peroxide in the office.

The ulcerations take 2-8 weeks to heal, on average, with most healing in 2-4 weeks, responses suggested.

Dr. Wagner reported having no potential conflicts of interest related to these topics. ■