Treating Congenital Nevi With Lasers

While surgery is the primary modality for treating congenital nevi, lasers are playing an increased role in treatment.

A Q&A With E. Victor Ross, MD

Congenital nevi can be a source of distress for patients and parents, given the obvious concern about potential malignancy. When nevi provide functional or cosmetic impairment, they become a source of further distress. While surgery remains the most common approach to nevi removal—and is the best option currently for malignant lesions—lasers can be used to eradicate nevi that have been found to be non-malignant on dermatologic evaluation. Pediatricians may therefore consider referring patients for evaluation of nevi to a dermatologic surgeon familiar with lasers.

What are some of the more common approaches to treat congenital nevi?
The most common successful approach to congenital nevi is surgery, according to Dr. Ross. “Surgery in either a one-stage or two- or three-stage procedure, depending on the size of the lesion, is normally the standard of care for most congenital nevi if the congenital nevus presents with a change or a risk of malignancy,” says Dr. Ross. Typically, the threshold for biopsying the congenital nevus or excising congenital nevus depends on the appearance of the lesion, he observes. “Certainly, lesions that are atypical in any way would merit at least a biopsy and typically a full excision,” Dr. Ross explains.

What role can lasers play in the treatment of congenital nevi?
Congenital nevi have been treated with lasers for approximately 35 years, observes Dr. Ross. “In the early days, long pulsed Ruby lasers were used, and more recently both long pulse Ruby alexandrite YAG lasers as well as nanosecond lasers have been used,” says Dr. Ross. Now, physicians have a full array of long pulse lasers that may provide benefit, including ruby, alexandrite, neodymium YAG (Nd:YAG) in both long pulse and nanosecond approaches.

The challenge in treating congenital nevi with lasers, specifically lasers where pigment is the target, is that one would only want to pursue this method of treatment typically for cosmetic reasons, Dr. Ross notes. The reasons for pursuing laser therapy would be if the lesion was unresectable and posed a cosmetic issue, according to Dr. Ross. “In these cases, it is reasonable if one is very careful to do a series of treatments with these different modalities using a sequential fashion to reduce the pigment load in these lesions,” he observes. “Certainly, if the lesion is atypical at all, any sort of laser treatment likely should not be undertaken and biopsy should be done,” he stresses.

Also, there are possible risk factors associated with treatment of congenital nevi with laser, particularly long pulsed millisecond lasers where over-treatment can result in scarring and inhomogeneous lightening, according to Dr. Ross. Finally, he adds that one can use a laser for hair reduction if there is a hairy congenital nevus alone. For this indication, treatment would be provided with a neodymium YAG laser.

What factors should be considered in the treatment of congenital nevi with a laser?
Dr. Ross notes that physicians must carefully assess the potential use of lasers to treat nevi. “The primary
factor would be if the lesion was interfering with form or cosmesis in certain areas, and the lesion is completely benign in appearance, this is where the role of the laser can be useful,” notes Dr. Ross.

“One can also use ablative lasers in some cases,” Dr. Ross notes, “however, in these cases if one is going to use an ablative laser, typically surgery might be a better option.” Lasers are also an option when surgery is impractical, as Dr. Ross noted previously, such as for lesions that may be near the eyelid margin or for a large lesion that is unresectable or challenging to resect without multiple stages and/or tissue expansion.

If congenital nevi are successfully treated with lasers, what if any impact does it have on the risk factors for melanoma?

According to Dr. Ross, there have been a few studies to suggest that a melanoma can arise in a mole treated by laser. These studies, however, are few and far between. “I think the most consistent policy is that one should look at these lesions very closely with a dermatoscope and follow them closely after laser treatment to look for any signs of atypia,” Dr. Ross explains. “If one of the concerns after laser treatment is incomplete removal of the pigment, the lesion certainly could have an atypical appearance, and one would have to know that laser was used to possibly raise the threshold for biopsy,” he observes.

If a clinician is not sure, small punch biopsies could be performed over parts of the lesion. “However, my guidance for lesion management would be certainly to only do a biopsy if there were some atypical features within the treated area of the congenital nevus,” says Dr. Ross. However, he emphasizes again that if atypical features present prior to treatment, lasers should not be used.