

Intratherapeutic dermoscopy assists nevus removal by laser therapy

Problem

Acquired melanocytic nevi are common benign pigmented cutaneous neoplasms. Traditional treatment of acquired melanocytic nevi includes dermabrasion, electrodesiccation and surgical excision. During recent years, laser therapy has become increasingly popular for the removal of acquired melanocytic nevi. Erbium-doped yttrium aluminum garnet laser emits a wavelength of 2,940 nm which is absorbed by tissue water. It can ablate and remove the superficial cutaneous lesions.¹ Although erbium-doped yttrium aluminum garnet laser is considered an effective and safe method for treatment of acquired melanocytic nevi, the therapeutic depth is often difficult to control.² Moreover, if depth of the treated area is not sufficient, the nevus would recur soon after treatment. On the other hand, scar formation would develop if the treated depth is more. Therefore, we have tried to find a solution to improve the outcome of laser procedure.

Solution

Dermoscopy is a non-invasive technique which has been used for assisting the diagnosis of pigmented or nonpigmented skin tumors for decades. We performed intra-therapeutic dermoscopy examination to enhance the clearance of melanocytic nevi by laser therapy. At first, the acquired melanocytic nevus [Figure 1a] was examined by polarized dermoscopy (DermLite® DL4, 3 Gen, San Juan Capistrano, CA, USA) to rule out possible malignancy [Figure 1b]. After adequate topical anesthesia, we used erbium-doped yttrium aluminum garnet laser (Profile, Sciton, Inc, Palo Alto, CA, USA) with a 2 mm spot size and fluency of 2.5 to 5.0 J/cm² to remove the nevus till the pigment was invisible by naked eye [Figure 1c]. Later, we performed intra-therapeutic dermoscopy examination with non-contact polarized mode, to detect and map the residual pigment in the treated area [Figure 1d]. Before dermoscopic examination, the contact plate was removed and the internal lens was cleaned using 70% alcohol. We also maintained 1 inch distance from the treated area to prevent contamination during the dermoscopic examination. Thereafter, we used erbium-doped yttrium aluminum garnet laser to treat the pigmented area, based on pigment mapping in dermoscopy for one to two passes. We repeated the process until there was no more pigment, as shown in dermoscopy examination [Figure 1e]. After treatment, the wound was covered with hydrocolloid dressings for post-therapeutic care. The patient was followed up for at least 6 months without recurrence or scar formation.



Figure 1a: Acquired melanocytic nevus over the cheek



Figure 1b: Dermoscopy showed typical pigmented pseudo-network pattern



Figure 1c: The clinical picture showed that nevus was removed by Er: YAG laser until the pigment was invisible by the naked eye



Figure 1d: Intra-therapeutic dermoscopy revealed residual pigment of treated nevus (black circles)

In conclusion, intra-therapeutic dermoscopy examination is a simple and non-invasive technique which can help us detect and map the location of residual nevus during laser therapy. In this way, we can remove the melanocytic nevus more accurately and avoid the damage of nearby tissue thereby reducing the risk of scar formation.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patients have given their consent for their images and other clinical information to be reported in the journal. The patient understands that name and initials will not be published and due efforts will be made to conceal identity but anonymity cannot be guaranteed.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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Figure 1e: Complete clearance of pigment on dermoscopy (polarized, $\times 10$), after repeat laser

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