



NAIL DISORDERS

## **NAIL PIGMENTATIONS TREATMENT BY USING 1064NM PICOSECOND LASER**

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**Introduction:** Pigmentations of nails may due to over production of melanin (lentigo, nevus or melanoma), accumulate colored substance (hemosiderin, fungal melanonychia or various drugs) in nail. It is a common disease in dermatology practice. There is no perfect resolution yet for nail pigmentation treatment. However, it has been shown that ultrashort laser pulses can disrupt pigments selectively, so we conducted picosecond laser for nail pigmentation treatment.

**Objective:** Evaluating the effects and side effects by using 1064nm picosecond laser for nail pigmentation treatment.

**Materials and Methods:** Eighteen subjects with nail pigmentation including fungal melanonychia, longitudinal melanonychia, subungual hematoma and drug induced melanonychia accepted 1064nm picosecond laser treatment. Before laser treatment, all patients need to take dermatoscopy examination for excluding malignancy. Laser treatment protocols was conducted as 1064nm, 750 picosecond, 4-5mm spot sized and 4.8 to 5.2J/cm<sup>2</sup>. All subjects with treated should return in one month, and then take secondary laser treatment if the lesion was not completely removed. we assessed patients' overall appearance of pigmentation clearance based on a 5-point quartile improvement scale at all follow-up visits (where 0=no improvement and 4=very significant improvement [76%-100%]) Severity of adverse events (AEs) were assessed using a 4-point scale (where 0=none and 3=marked). The evaluations included scarring, itchiness, pain, onycholysis, Nail deformation or surface damage.

**Results:** The clearance of pigmentation for all subjects who had accepted one treatment is  $3.31 \pm 0.46$  and AEs is  $0.81 \pm 0.63$ . five subjects were accepted secondary laser treatment.

**Conclusions:** Nail pigmentation must exclude malignancy risk first. However, nail malformation after nail punch biopsy is the main reason for patient to reject biopsy examination. Picosecond laser can effectively and quickly treat nail pigmentation and avoid damaging the nail plate. It is a good alternative choice for nail pigmentation treatment.

