TREATMENT OF IDIOPATHIC ONYCHODYSTROPHY WITH 1064 NM PICOSECOND ND:YAG LASER

Y Lee (1) - Y Kim (1) - H Song (1) - H Park (1) - J Yang (1) - J Kim (1) - S Yim (1) - J Lim (1) - H Lee (1) - Y Choi (1) - G Lee (2) - W Kim (2)

Sungkyunkwan University School Of Medicine, Kangbuk Samsung Hospital, Department Of Dermatology, Seoul, Republic Of Korea (1) - Kangbuk Samsung Hospital, Department Of Dermatology, Kangbuk Samsung Hospital, Department Of Dermatology, Seoul, Republic Of Korea (2)

Introduction: Laser treatment has emerged as a novel treatment modality for onychodystrophy. Indeed, only a few small series have assessed the efficacy of laser treatment in onychodystrophy, most of which were case reports. Recently, the picosecond domain, neodymium-doped yttrium aluminum garnet (Nd:YAG) laser has been introduced for the improvement of various skin disorders.

Objective: The aim of this study was to verify the efficacy of a 1064 nm picosecond Nd:YAG (PSNY) laser in the management of idiopathic onychodystrophy.

Material and methods: We present a case series of nails (25 patients, 128 total nails) treated with a 1064 nm PSNY for onychodystrophy improvement. Planimetry using Image J software was used to calculate lesion reduction and proximal clear nail growth. Clinical improvement was assessed by two blinded dermatologists using a 5-point Global Assessment Scale (GAS). Adverse events were also assessed.

Results: 25 subjects (11 males and 14 females, mean age 46.6 ± 15.1 years) were analyzed. A total of 128 nails, consisting of 94 finger nails and 34 toe nail, were treated with a 1064 nm PSNY. The mean treatment session was 8.4 ± 5.7. After receiving a 1064nm PSNY laser therapy, Image J analysis showed that the area of lesion was significantly decreased from 65.9% to 46.6% (P< 0.01). There were no serious adverse events associated with the treatment during follow-up period.

Conclusion: This new laser technique can provide an alternative treatment for onychodystrophy, with good prognosis during follow-up period, and optimal cosmetic results in Asian patients.

Key words: laser treatment; nail dystrophy; neodymium-doped:yttrium aluminum garnet;
onychodystrophy; picosecond