Intractable Plantar Keratosis (IPK) Treatment With Er:YAG Laser

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SUMMARY

Intractable Plantar Keratosis also known as plantar callus, »seed corn«, clavus durus, etc. is a very unpleasant and painful condition in both men and women which is caused by an accumulation of dead skin cells that harden and thicken over an area of the foot. Several modalities of treatments have been used in the therapies for Intractable Plantar Keratosis including regular trimming, acid clearance, cryo therapy and classic surgery. All have their limitations and collateral effects.

To evaluate the novel minimally invasive surgical treatment of Intractable Plantar Keratosis with the use of Er:YAG Laser, which is proposed as optimal solution for this indication.

16 patients (12 females and 4 males) were treated in single center – Olivier's Clinic in Moravske Toplice, Slovenia in period between March 2009 and July 2010. Laser procedures of removal of the Intractable Plantar Keratosis were executed in local anesthesia, the calluses were destroyed with the laser energy and removed from the foot with ablation. ErYAG laser with wavelength of 2.940 nm was used with spot size of 3 mm, energies per pulse of 350 mJ, pulse duration of 300 usec and frequency of 10 Hz. Single treatment was sufficient for complete removal of IPK

Follow-ups were made on third day and one week, one month and six months intervals.

Fig. 1: Example of large intractable plantar keratosis on the *foot.*

The procedure was tolerated well by all patients. All patients healed quickly – complete healing was achieved in average in two weeks time. There were no side or adverse effects after this procedure aside of mild pain on the second day after the procedure. At six months follow-up all patients were clear of IPK.

Fig. 2: Healing of the treated IPK: a) 5 days after the treatment; b) 2 weeks after; c) 1 month after; d) 2 months after – fully healed without scars

Laser removal of the plantar calluses with ErYAG laser is minimally invasive and successful and safe method for treatment of intractable plantar keratosis.

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