

Subungual Pyogenic Granuloma Treated by Sodium Tetradecyl Sulfate Sclerotherapy

SANG EUN MOON, MD*

Sang Eun Moon, MD, has indicated no significant interest with commercial supporters.

Pyo-genic granuloma is a relatively common, acquired hemangioma, composed of well-differentiated vessels. These lesions grow rapidly and are usually found on the head and neck region of the body. A minor injury is often described as an etiologic factor.¹ Many treatment options are available. Sometimes it is unclear which treatment approach to use; this is especially the case for lesions in the subungual location. Herein a case with subungual pyogenic granuloma treated by sodium tetradecyl sulfate sclerotherapy is described.

Case Report

A 33-year-old woman presented with a subungual mass on her right thumb that developed one month prior to presentation. The patient reported that a sharp object injured the nail plate of her thumb while cleaning the air conditioner; the wound did not heal well. A small red painful mass gradually grew and bled easily with minor trauma. Physical examination revealed a well-circumscribed 4-mm, pedunculated, dark red-colored papule over a damaged nail plate of the right thumb (Figure 1).

Sodium tetradecyl sulfate (3% Tromboject, Omega Laboratories Ltd, Montreal, Quebec, Canada) was diluted with distilled water to a final concentration of 0.5% for injection according to the previous report.² The 0.5% sodium tetradecyl sulfate solution was injected slowly into the mass until blanching was observed. The patient was followed up 1 week later, and the response of injection was evaluated.

The tumor shrunk much, leaving small residual lesion, and the second injection was performed. At 1 week after the second treatment, the papule completely disappeared. The total volume of solution injected was 0.1 mL. The patient did not complain of any pain and there was no adverse reaction. One year and 4 months after treatment, the nail plate has grown normally and there was no recurrence (Figure 2).

Discussion

The treatment of a pyogenic granuloma is frequently challenging and its location can add to the difficulty of treatment. There are several treatment options. Surgical excision or electrosurgery is the standard treatment options for a pyogenic granuloma.¹ However, the nail unit is inherently a difficult area for surgery, which may cause dystrophic nail changes.³ In addition, the nail plate would have to be partially or totally avulsed and this would cause discomfort postoperatively. Electrosurgery and cryotherapy may cause nonspecific tissue damage; the nonspecific damage may leave nail dystrophic changes and impairment of digital sensation.⁴ Silver nitrate cauterization after physical removal of the mass,⁵ shave excision, and laser photocoagulation⁶ may be additional options to consider. However, these methods are staged procedures that can be complicated and may require anesthesia as well. The use of a pulsed dye laser has been reported to be effective.⁷ However, this approach may only be suitable for small and thin lesions because of the

*Moon Dermatology, Seoul, Korea

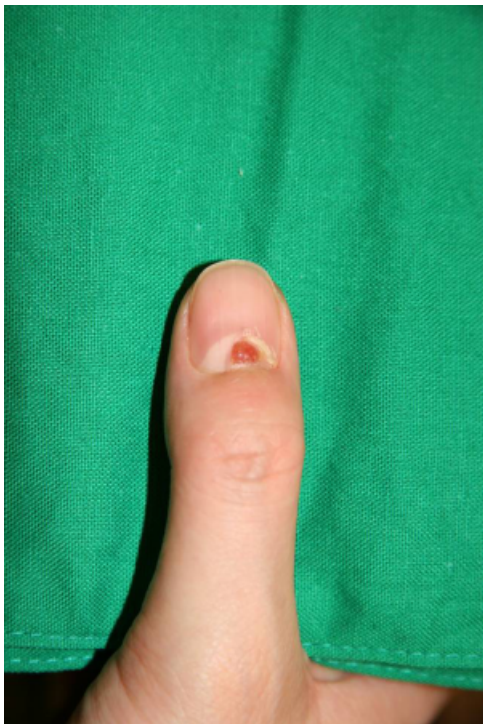


Figure 1. A pyogenic granuloma embedded in the lunula, caused by a penetrating injury of the proximal nail plate of the right thumb.

limitation of penetration depth. Although the carbon dioxide laser yields an excellent therapeutic outcome,⁸ the procedure is largely dependent upon the operator's skill and requires local or general anesthesia as well as postoperative care. The carbon dioxide laser may cause thermal damage to the nail matrix and may result in nail dystrophy.

Sclerotherapy has been reported to be a suitable treatment method for surgically challenging or larger pyogenic granuloma.² Therefore, sclerotherapy was chosen and resulted in a complete resolution of the subungual pyogenic granuloma. Although sclerotherapy requires a couple of treatment sessions, it is a simple, convenient and economic method. It does not require anesthesia and expensive equipment such as laser.

In conclusion, sodium tetradecyl sulfate sclerotherapy is a useful treatment modality for pyogenic granuloma of the nail unit.

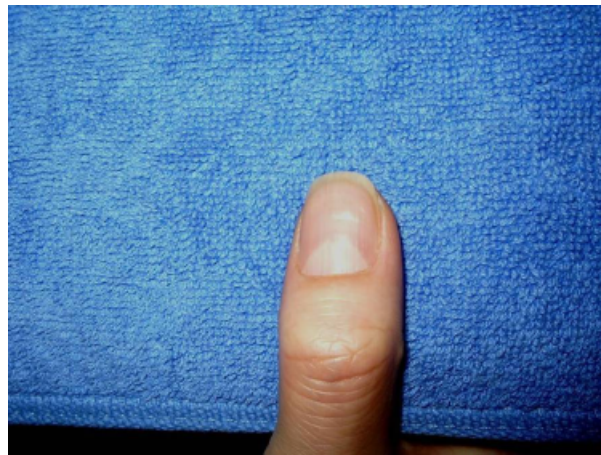


Figure 2. The pyogenic granuloma disappeared completely and a normal nail plate grew back 16 months after treatment. There was no dystrophic change of the nail plate.

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Address correspondence and reprint requests to: Sang Eun Moon, MD, Moon Dermatology, Seoul, Korea, 3F, Hanshin Building, 65-32, Jamwon-dong, Seocho-gu, Seoul 137-907, Korea, or e-mail: semoon@snu.ac.kr