IDIPATHIC ONYCHODYSTROPHY IMPROVES WITH INTRADERMAL DEXPANTHENOL INJECTION: AN EXTRAORDINARY USE

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Abstract

Idiopathic onychodystrophy is one of the most challenging conditions for dermatologists to treat. Topical steroids, laser, total nail ablation and nail avulsion had been tried, but no optimal therapy has been decided yet. Herein we present the case of a middle-aged male patient with idiopathic onychodystrophy on his thumb, who improved with six intradermal dexpanthenol injections on weekly basis. This is an extraordinary successful use of dexpanthenol, which is a common medication all over the world.

Introduction

Onychodystrophy is the name given for the deterioration of the structure of the nail plate. Although it is frequently caused by fungal infections, onychodystrophy can also be seen in trauma, peripheral vascular diseases and neurological diseases. Idiopathic onychodystrophies are also not rare (1). As well as cosmetic problems, secondary infection and pain may worsen quality of life. Cutting nails in this disease is a difficult task. Treatment options are limited.

Dexpanthenol is a B complex vitamin called pantothenic acid. It is often used topically for promotion of epithelization and moisturizing (2). There is no much clinical study regarding injectional form of dexpanthenol, except its gastrointestinal stimulation effect reported in the past (3).

In this article, we present a male patient with onychodystrophy on his thumb, who improved with dexpanthenol injection into the nail matrix.

Case report

A 46-year-old man was admitted to our clinic for malformation of his thumb for about two years (Figure 1). He was diagnosed with fungus at that time and used oral and topical antifungal, and occasionally, topical steroids. Despite this, no improvement was achieved.

Native examination of the nail was performed, which failed to identify any fungi. The patient was diagnosed with idiopathic onychodystrophy with-
out any underlying cause. A 0.4 cc dexpanthenol was intradermally applied with 0.1 cc of panto-
caine, 2-3 mm proximal to both medial and lateral
sides of the dystrophic thumb.
A total of six injections at weekly intervals was
administrated in the patient’s thumb nail. No side
effects were observed. A tolerable pain was de-
scribed by the patient. At the end of second month,
the nail has completely improved (Figure 2).

Discussion

Idiopathic onychodystrophy is a nail problem
that is very difficult to treat resulting in little patient
satisfaction. Successful outcomes have been re-
ported with topical steroids, laser and phenol ad-
ministration with matrix ablation (1, 4, 5).
There is an interesting case report in which
chronic idiopathic onychodystrophy healed with-
out any adverse effects, with the carotene-rich diet
consisting of two cups of carrot juice per day for a
month (6).
Nail avulsion is an invasive option that is pro-
blematic in terms of quality of life during postope-
rative period, and moreover, it often fails to achieve
adequate success.

Dexpanthenol, also known as Provitamin B5, is
an epithelial emollient molecule that can be ad-
ministered intramuscularly, intravenously and sub-
cutaneously in parenteral form, with very few side
effects (7).

Our patient had a history of antifungal and topi-
cal steroid treatment failure. Thus, it was thought
that dexpanthenol, which has wound repair pro-
moting properties, could have a therapeutic effect
and the intralesional application was preferred for
effective tissue concentration. We thought that a
molecule with safe intravenous and intramuscular
applications would be safe for intradermal injec-
tions as well. As a matter of fact, we did not en-
counter any side effect other than injection pain.

With this highly safe molecule, such a suc-
cess is perfectly appreciated in a common but
difficult-to-treat problem.

Hereby, we hope that our modest success in this
case will lead to further trials which would establish
possible role of dexpanthenol in nail dystrophias.

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