

Case Reports

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Frontal edema after application of 5% minoxidil and biotin in intradermal injections

Edema frontal após aplicação de minoxidil 5% e biotina em injeções intradérmicas

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RESUMO

A intradermoterapia, ou mesoterapia, é procedimento não cirúrgico, minimamente invasivo, que consiste em múltiplas aplicações de substâncias farmacológicas diluídas por via intradérmica ou subcutânea. Já foram relatados vários efeitos adversos posteriores a esse procedimento: alopecia, erupção liquenóide, oleoma, indução de psoríase e infecções cutâneas. A informação científica sobre o tema é escassa, e há poucos estudos com metodologia rigorosa acerca da eficácia e do mecanismo de ação da via intradérmica. Relata-se caso de edema frontal após intradermoterapia com minoxidil e biotina.

Palavras-chave: mesoterapia; alopecia; doenças do cabelo

ABSTRACT

Intradermotherapy, also known as mesotherapy, is a non-surgical procedure, minimally invasive consisting of multiple applications of pharmacological substances diluted by intradermally or subcutaneously. Adversities already been reported after treatment mesoterápico as alopecia, lichenoid rash, oleoma, psoriasis induction and skin infections. There is scant scientific information on the subject, and few studies with more rigorous methodology of the efficacy and mechanism of action of intradermally. Knowing this, there was this article having a complicating account of this method in a patient of our service, and elucidate some of its benefits and other complications.

Keywords: mesotherapy; alopecia; hair diseases

INTRODUCTION

Intradermal therapy, also known as mesotherapy, is a non-surgical, minimally invasive procedure consisting of applications of diluted pharmacological substances intradermally or subcutaneously, at multiple points in the area to be treated. The technique was introduced in 1958 by Pistor, a French physician who initially used the procedure as a new analgesic therapeutic method for rheumatologic diseases.¹ Nowadays – 50 years on – this practice has been adopted in many European countries and the United States of America. It has been recently introduced in Brazil and is indicated for the treatment of fat deposits, skin rejuvenation and hair growth.²

Regarding hair growth, the technique is used as an alternative therapy in the treatment of female androgenetic alopecia. In theory, its advantage would comprise a faster therapeutic response and a greater stimulus to hair regrowth. Despite this, sufficient scientific evidence could not be found in support of this approach.^{3,4}

In this manner, the present report's proposal is to describe a complication after treatment with capillary mesotherapy.

CASE REPORT

A 36-year-old female patient diagnosed with androgenetic alopecia experienced non-inflammatory frontal edema 24 hours after undergoing mesotherapy with 5% minoxidil and biotin on the scalp (Figures 1 and 2). The edema emerged after the patient worked for 8 hours looking down at a computer monitor. She was then instructed to massage and apply compresses on the edema's site, with spontaneous remission of the condition one day after the onset of the picture.

DISCUSSION

The scarce publication of articles and reports on the complications of intradermotherapy in the treatment of androgenetic alopecia validates the importance of the present study. One of the few reports found describes the presence of frontal edema after biotin intradermal therapy and topical application of 5% minoxidil. In this paper, published in 2015, the authors report that after discontinuation of the topical therapy, the edema receded. According to the article, the reason for this side effect was the mechanism of vasodilation, triggered by minoxidil. The great number of drug injection points would have been responsible for the greater absorption of the substance, leading to edema in the frontal region.⁵



FIGURE 1: Depressible and non-inflammatory edema on the forehead



FIGURE 2: Frontal edema in greater detail

In 2009, another type of complication caused by intradermal therapy was reported by Duque-Estrada *et al.*, who described two cases of presence of irregular alopecia after the treatment for androgenetic alopecia. In the first case, the patient developed areas of residual cicatricial alopecia after injections of the heparinoid vasodilator mesoglycan, while in the second case, the patient presented reversible alopecia after multiple injections of homeopathic agents.⁶ Another complication caused by this procedure was reported in 2008 by Kadry, Hamadah, Al-Issa, Field and Alrabiah, with the emergence of multiple abscesses on the scalp, with fat necrosis, resulting from mesotherapy in the scalp, using a mixture of flavonoids, vitamins (B1, B3, B5, B6, C), procaine and saline solution.⁷ Surgical repair was necessary due to that side effect.

It is believed that the fact that the present report's patient had edema in the frontal region 24 hours after the procedure, after having remained with the head positioned down for a considerably long time, has contributed to the development of the complication.

Although described as a minimally invasive procedure, intradermal therapy has potential for several types of complications. Special attention should be given to rigorous asepsis and antisepsis, as well as to the origin of the material to be used. In addition, patients should be provided with guidance on appropriate posture measures after the sessions.

Because of the scarcity of standardized studies and the reports of side effects resulting from intradermal therapy, caution is truly required when choosing this therapeutic method. Further research is therefore needed aimed at elucidating the precise mechanism of hair mesotherapy. The present case was described with a view to expanding the literature available on mesotherapy. ●

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