

Slim belt induced morphea-Price paid for a slimmer look

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ABSTRACT

Morphea, also known as localized scleroderma, encompasses a group of distinct conditions characterized by sclerosis of the skin and the underlying tissues. Many triggering factors have been implicated in the development of morphea like trauma, immobilization, bacille Calmette–Guérin (BCG) vaccination, injections of vitamin K, mechanical compression from clothing, etc. but slim belt as a cause of morphea has not been previously reported to the best of our knowledge. We report a 28 year old married obese woman who developed a shiny brownish indurated plaque over the abdomen after three months of use of a slim belt for her obesity. Skin biopsy was consistent with the diagnosis of morphea. She was prescribed topical tacrolimus 0.1% ointment and improved with course of time. The present case illustrates the first description of morphea as a result of use of slim belt which has not been previously reported in the literature.

Key words: Localised scleroderma; Indurated plaque; Morphea, Slim belt; Tacrolimus

INTRODUCTION

Morphea is a rare, chronic inflammatory disease of the skin and underlying tissues characterized by sclerosis of the skin, subcutaneous tissue, and in some cases involves the underlying fascia, muscle, or bone [1,2]. Although the specific etiology of morphea is unknown, several triggering factors have been recognized in the literature which include trauma [2], immobilization [3], bacille Calmette–Guérin (BCG) vaccination [4], injections of vitamin K [5], mechanical compression from clothing [6], previous radiotherapy [7], etc. The use of slim belts for abdominal obesity is becoming common in the society due to advertisements on television, newspapers, etc. Slim belt use as a cause of morphea has not been stated in the literature yet to the best of our knowledge.

CASE REPORT

A 28 year old married obese woman presented to our dermatological department with a chief complaint

of shiny brownish indurated area on the left upper abdomen of one month duration. There is history of use of slim belt for her abdominal obesity for the last three months. The lesion started insidiously and progressed during this month to attain the size of four to five centimeters. It was associated with mild pruritis initially which resolved of its own. There is no history of application of any topical medication. She didn't give history of any trauma to the affected site nor any sequential colour changes of digits on exposure to cold. The patient was not taking any medication prior to this lesion and was advised by some relative to use the slim belt for her obesity. She used to wear the slim belt over abdomen for 12-16 hours a day.

On physical examination, she looked obese with a body weight of 82Kg, height 162 cm with a body mass index (BMI) of 31.29 and her waist circumference was 92 cm confirming her obesity. Review of systems was unremarkable. Dermatological examination revealed a single, shiny, 4 × 5 cm, ill-defined, brownish hyperpigmented, indurated plaque over left upper

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abdomen (Fig. 1). There was loss of appendages in the plaque. Nail fold capillaroscopy did not reveal any abnormal capillaries. Punch skin biopsy was taken from the edge of the lesion to involve the normal skin to act as control. Histopathological examination revealed atrophic epidermis with loss of rete ridges. Dermis showed mild to moderate chronic mononuclear cell inflammatory infiltrate with loss of skin appendages while deeper dermis showed bundles of dense collagen which was consistent with the diagnosis of morphea. With such a history and clinical presentation and further supported by histopathological findings, a diagnosis of morphea secondary to the use of slim belt for obesity was made. Her laboratory investigations like complete blood counts (CBC), erythrocyte sedimentation rate (ESR) and anti-nuclear antibody (ANA) were unremarkable. She was advised to avoid the use of slim belt and to use alternative treatment for her abdominal obesity. She was prescribed topical tacrolimus 0.1% ointment twice daily. Over a follow up of three months, no new lesions appeared with reduction in the skin thickening, induration and hyperpigmentation of the plaque.

Prior to the study, patient gave written consent to the examination and biopsy after having been informed about the procedure.

DISCUSSION

The cause of morphea is unknown. Various triggering factors have been documented in the literature viz., trauma, immobilization, bacille Calmette–Guérin (BCG) vaccination, injections of vitamin K, previous radiotherapy [2-5,6]. In 2006, Mutsuko Ehara et



Figure 1: Morphea showing a shiny, hyperpigmented, indurated plaque over left upper abdomen

al, described two female patients with generalized morphea-like lesions, whose distribution was confined to areas mechanically compressed by underclothes [6]. How did the use of electronic slim belt cause morphea in our patient is still not clear. We speculate that the constant pressure and irritation caused by the slim belt on the abdominal skin together with the generation of local heat in the electronic slim belt may have caused morphea in our patient. There are many treatment options for limited plaque morphea which include topical tacrolimus, narrowband ultraviolet light (NB-UVB) therapy, ultraviolet light A1 (UVA1) phototherapy, psoralen plus ultraviolet A light phototherapy (PUVA), topical imiquimod and combination of calcipotriol with betamethasone dipropionate [8,9]. Kroft et al studied the efficacy of topical tacrolimus 0.1% in the plaque type morphea in a randomized, double-blind, emollient-controlled study. They found that topical tacrolimus effectively decreased skin thickness, induration, dyspigmentation and atrophy when applied twice daily for duration of 12 weeks [10]. Our patient was similarly prescribed topical tacrolimus 0.1% ointment twice a day. After a follow up of three months, the plaque showed reduction in skin thickening, induration and hyperpigmentation. This is probably the first case of plaque type morphea secondary to the use of abdominal slim belt and may be in future more cases come out due to its use.

CONSENT

The examination of the patient was conducted according to the Declaration of Helsinki principles. Written informed consent was obtained from the patient for publication of this article and any accompanying images.

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