

Case Report

Severe irritant contact dermatitis due to synthetic undercast padding in a patient under fracture treatment

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Abstract: Irritant contact dermatitis due to synthetic undercast padding is rare complication of plaster cast treatment which is underreported in orthopedic literature. Pruritis was the main symptom a few days following the application of the cast in our patient. However, the symptoms were underestimated by the treating physician. Severe irritant contact dermatitis can occur against the polyester undercast padding and should be kept in mind in patients whom complaining of pruritis under the treatment of casting.

Keywords: contact dermatitis, plaster cast, polyester

INTRODUCTION

The danger of severe irritant contact dermatitis after the application of casts is not generally appreciated. Because of its apparent rarity, we decided to report the following case of severe irritant contact dermatitis due to synthetic undercast padding in a patient under fracture treatment.

CASE REPORT

A 10-year-old girl was seen in our outpatient orthopedic clinic for a scheduled follow-up after she had been to the emergency department three weeks previously. She stated that she attended the emergency department after she had fell on her outstretched hand, and wrist radiographs were taken. Thereafter, a short arm plaster cast was applied in the emergency department for a diagnosis of distal radius greenstick

fracture. Five days later, she had admitted to the outpatient orthopedic clinic complaining of intensive pruritis and requested the removal of the cast. However, she was informed that pruritis is a common complaint during cast treatment and discharged without removal of the cast. At the final admission, the plaster cast was therefore removed, and on physical examination there were sharply defined erythema and vesiculobullous lesions over the dorsum of hand and forearm which was consistent with the location of the plaster cast. Fingers were all protected and lesions free (Fig.1). The patient was sent to the dermatology clinic for further evaluation and treatment. Irritant contact dermatitis was diagnosed and topical corticosteroid ointment and antihistaminic were prescribed for the treatment. The lesions were improved in the following two weeks.



Fig-1: Appearance of the patient's hand after the removal of plaster cast. Demarcation of the lesions over the contact area is clearly seen.

DISCUSSION

Casting is commonly used in the management of fractures. Cast application is not entirely without risks and complications. The most common complication associated with casts is the formation of pressure or rub sores. They also carry other risk of complications such as compartment syndrome, thermal injuries and skin infection. Excessive immobilization from continuous use of a cast can lead to chronic pain, joint stiffness, muscle atrophy, complex regional pain syndrome or more severe complications such as venous thrombosis and even pulmonary embolism [1-3]. However, a severe irritant contact dermatitis is an uncommon complication of casting, and rarely mentioned in orthopedic literature [4, 5].

In routine practice, the patients are usually warned about danger signals, such as pain, numbness, and cyanosis after the application of plaster cast. On the other hand, pruritis is not considered as an important symptom because many patients present pruritis due to the inhibition of perspiration of the skin and sweating.

CONCLUSION

Severe irritant contact dermatitis can occur against the polyester undercast padding and should be kept in mind in patients whom complaining of pruritis under the treatment of casting.

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