

A Case of Orf Complicated by Erythema Multiforme

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Received Date: March 08, 2021; **Published Date:** April 21, 2021

Abstract

Orf is a zoonotic infection caused by the Parapox Virus. It is transmitted from infected animals such as sheep, goats, infected materials, through the skin with impaired integrity. A thirty two year old housewife presented to the clinic with a painful, erythematous, nodular lesion, about 1 cm in diameter, on the dorsal aspect of the second finger of the left hand, following a history of chopping meat. The patient, who was treated with the diagnosis of orf, was admitted to the clinic one week later with lesions of erythema multiforme. Erythema multiforme is a rare complication of orf infection. In conclusion, orf should be considered in differential diagnosis in patients who have contact with animals such as sheep and goats, even if there is no history for occupational risk. It should be kept in mind that the disease can be seen as isolated orf or complicated with erythema multiforme.

Keywords: Orf; Erythematous; Mammalian

Introduction

Orf, also known as ecthyma contagiosum, is a zoonotic infection caused by the Parapox virus which belongs to the Poxviridae Family [1]. Primary mammalian hosts are, sheep and goats. Transmission to humans occurs through direct contact of damaged skin and infected animals or contact with contaminated fomites which represents an indirect way [2].

Infection may cause pneumonia and other serious complications in sheep, but in humans, the disease has a good prognosis and tends to be self-limiting [3]. It usually occurs as a small ulcer or nodule on the hand or fingers. Although secondary bacterial infection and lymphangitis may accompany the disease more frequently, erythema multiforme is extremely rare [4]. Here, an orf case complicated with erythema multiforme is presented due to its rarity.

Case Report

A 32 year old female patient applied to the Dermatology outpatient clinic with the complaint of a wound in the second finger of her left hand. The patient, who was found to have post prandial hypoglycemia, did not have a history of drug use or trauma.

It was learned that the patient, who was a house wife, chopped meat about two weeks ago and had no other history of contact with products such as wool or leather from small ruminants or cattle. On physical examination, there was a painful, erythematous, nodular lesion about one cm in diameter on the back of the left second finger. No additional pathology was found in the dermatological examination. For the differential diagnosis with anthrax, no microorganism was seen as a result of gram staining of the fluid taken from

the lesion. No growth was detected in the culture. The patient was diagnosed with orf in accordance with the history, clinical appearance and microbiological examination. A wet wrap therapy along with a topical antibiotic solution was given to prevent secondary bacterial infection.

Almost one week later, the patient applied to our outpatient clinic with the complaint of a red, itchy rash on the hands and feet. Through dermatological examination, erythematous papules resembling a target board was found intense in the palmar and dorsal areas of the hand and sparse on the feet (Figure 1). There was no accompanying lesion on the face, mouth, genital area or trunk. The patient refused the biopsy. Erythema multiforme was considered due to the occurrence of lesions after orf infection, the targetoid shape of the papules and their acral distribution. It was observed that erythema multiforme and orf lesion regressed simultaneously with topical corticosteroid treatment.

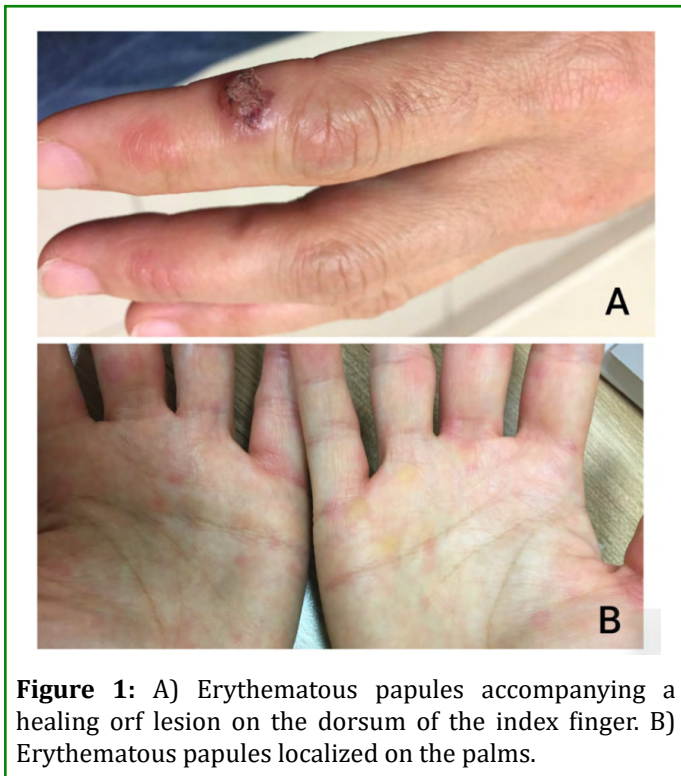


Figure 1: A) Erythematous papules accompanying a healing orf lesion on the dorsum of the index finger. B) Erythematous papules localized on the palms.

Discussion

Orf's disease was first described by Walley in 1890 [5]. It is transmitted to humans as a result of contact of infected animals such as sheep, goats, or material contaminated with the virus with damaged skin. Farmers, shepherds, veterinarians, and butchers are occupational groups at risk [6]. The case in this study was a housewife who was not in the risky profession but had a history of chopping meat.

Six stages of the disease have been described in sheep and humans: maculopapular stage, targetoid stage, nodular stage, regenerative stage, papulomatous stage and regressive stage, each lasting approximately one week. The lesion begins as an erythematous maculopapule and turns into a white ring around a red center and an erythematous halo surrounding it. It is observed that the lesion regresses with nodule formation, crusting and healing stages afterwards [7]. In a study conducted by Aktaş et al., The mean time between contact and the formation of orf lesions was 11.4 days, while the mean time for development of erythema multiforme after orf was 6.7 days [6]. In accordance with the literature, the primary orf lesion appeared approximately 2 weeks after the contact in this case and erythema multiforme developed one week after the lesion appeared.

History of contact with infected animals and their products and clinical appearance are helpful for diagnosis. The definitive diagnosis is made by showing the virus by examining the sample taken from the lesion by electron microscopy, performing viral culture, histopathological examination of the biopsy material, immunofluorescent antibody tests and other serological examinations [8]. The differential diagnosis of orf includes infectious and noninfectious diseases such as anthrax, staphylococcal skin infection, mycotic infections such as coccidiomycosis, sporotrichosis, tularemia, giant molluscum contagiosum, pyogenic granuloma, keratoacanthoma, and skin cancers [7]. In this case, the pain of the lesion and the absence of malignant edema, negative staining of the fluid taken from the lesion with gram staining excluded anthrax and staphylococcal infection. Since the patient refused a skin biopsy, supporting the typical clinical picture with the history provided the diagnosis.

Since it usually heals spontaneously within an average of six to eight weeks, it does not require specific treatment. Antiseptic dressings and topical antibiotics can be used to prevent secondary bacterial infections. It has been reported that cidofovir and cryotherapy have been used successfully to treat large lesions [9]. In this case, the lesion regressed with topical antiseptic solution without secondary bacterial infection being developed.

Erythema multiforme is a mucocutaneous hypersensitivity reaction characterized by a targetoid-shaped, itchy, papulovesicular rash. Herpes simplex virus infection, mycoplasma infection, drugs and vaccines have been blamed for the etiology of the disease. Rarely, it has been stated that the immune response that develops against orf infection may be responsible for erythema multiforme [6].

In conclusion, orf should be considered in the differential diagnosis in patients who have contact with animals such

as sheep and goats, even if there is no history for risky occupation. With this case report, it is aimed to emphasize that the disease can be seen as isolated orf or complicated with erythema multiforme.

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