

## Orf Disease Following “Eid ul-Adha”: A Rare Cause of Erythema Multiforme

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### ABSTRACT

Orf, also known as contagious pustular dermatitis, is an exanthemous disease caused by a parapox virus. It is usually a benign locally self-limiting illness; it can have systemic complication or progressive infected locations can include the finger, hand, arm, and face. Development of erythema multiforme following Orf infection is very rare. In Islamic populations such as those of Iran, Orf can be observed in individuals who are not occupationally involved, but may be in contact with sheep or goats after the Islamic worship as an “Eid ul-Adha.” Here we report an erythema multiforme associated with multiple lesion of Orf disease following the “Eid ul-Adha” in Iranian housewives.

**Keywords:** Ecthyma contagiosum, Eid ul-Adha, erythema multiforme, Orf disease.

### INTRODUCTION

Orf (ecthyma contagiosum, contagious pustular dermatitis) first described by Newson and Cross, is caused by parapoxvirus - a double-stranded deoxyribonucleic acid virus that is prevalent among farming communities.<sup>[1]</sup> The disease known as a professional disease of farmers, veterinarians, butchers and shearers appears on the hands.<sup>[2]</sup> In Islamic populations such as those of Iran, Orf can be observed in individuals who are not occupationally involved, but may be in contact with sheep or goats after the Islamic worship as a “Eid ul-Adha.” In this ritual, patients manipulate animal body parts and meat with bare hands. For this reason, the lesions are commonly seen on the hands and arms.<sup>[3,4]</sup> Here, we report an erythema multiforme associated with Orf disease following the “Eid ul-Adha” in Iranian housewives.

### CASE REPORT

The case we report here is about a 37-year-old woman who referred to our clinic with suspected anthrax. There had appeared two small pustules on the thumb and little finger of her left hand 2 weeks before coming to our clinic. A few days ago, target lesions had appeared on the back of both of her hands [Figure 1]. For which the patient had gone to and been treated with systemic antibiotics by the family physician without any improvement of the lesions. The patient gave a history of contact with meat with

ungloved hands, 14 days before the initiation of the lesions, during the “Eid ul-Adha.”

She had mild constitutional symptoms or low-grade fever and suffered from a painful finger ulcer, itching, redness, and swelling on the hands. Upon dermatological examination, two lesions on the thumb and little fingers of the patient's left hand, about 1.5 cm in diameter, brownish, and crusted were seen. On her hands, there were multiple target-shaped papules and plaques [Figure 2].

Swabs of skin culture of the lesions showed no fungi or pathogenic bacteria. Based on the history and physical examination, the patient was diagnosed with Orf and erythema multiforme. She was then treated with topical steroid for erythema multiforme (the dose was tapered down and medication was stopped after 2 weeks), topical mupirocin, oral cetirizine, and wet dressing with antiseptic solution (until the symptoms disappeared). In the first week of treatment, the patient's lesions improved dramatically without any complications.

## DISCUSSION

Orf sometimes occurs solitary, but multiple lesions are not uncommon.<sup>[5]</sup>

It generally manifests as solitary lesions on hands and fingers, but it may rarely present as multiple nodular lesions<sup>[5]</sup> such our case.

Furthermore when appearing in human beings, the disease tends to be benign and self-limiting. It commonly manifests as a small ulcer or nodule on the hand or finger.<sup>[6]</sup> After a 3-10 days incubation period, a macule or a papule occurs, and then this lesion turns into a nodule. It is usually diagnosed by a physical examination and a history of contact with infected animals.<sup>[7]</sup>

Iranian housewives run a higher risk of contracting Orf due to their contact with sheep head and foot, manipulated to prepare the trotter dish - a popular delicacy - in Iran, especially after “Eid ul-Adha” [Figure 3].

Differential diagnosis of Orf include pyoderma, herpetic whitlow, cowpox, pseudocowpox (milker's nodule), cat-scratch disease, anthrax, tularemia, primary inoculation tuberculosis, atypical mycobacteriosis, syphilitic chancre, sporotrichosis, keratoacanthoma, and pyogenic granuloma.<sup>[8]</sup> The illness is usually diagnosed by a



**Figure 1:** Orf disease: Erythema multiforme as a result of Orf disease



**Figure 2:** Orf disease: Erythema multiforme as a result of Orf disease. The target-shaped lesion was seen in the left hand of a housewife patient



**Figure 3:** Iranian housewives run a higher risk of contracting Orf due to their contact with sheep head and foot, manipulated to prepare the trotter dish - a popular delicacy - in Iran

physical examination and a history of contact with infected animals as seen in our patient.<sup>[9]</sup>

Rarely, Orf infection in people has been associated with systemic sequels such as, lymphangitis, lymphadenitis and general malaise with chills; fever and secondary bacterial infection have been noted.<sup>[10]</sup> Development of erythema multiforme following Orf infection is very rare.<sup>[7,8,11]</sup>

The immune response to the infection is considered to be responsible for erythema multiforme.<sup>[12]</sup> Our patient was a housewife, and her complaints from erythema multiforme minor with fever had also begun approximately 2 weeks after the presentation of the Orf.

## CONCLUSIONS

Information about the disease and its complications such as erythema multiforme should be given to the relevant people with special attention to housewives. Human Orf is well recognized by dermatologists and other physicians; family physicians, in particular, should be able to recognize the disease. It is important to consider human hand Orf as a differential diagnosis of any nodular hand lesions with unknown etiology to prevent overtreatment and any complications like erythema multiforme.

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