Acta Dermatovenerol APA

Acta Dermatovenerologica
Alpina, Pannonica et Adriatica

2012;21:45-46
doi: 10.2478/v10162-012-0013-4

Erythema multiforme as a result of Orf disease

Perihan Ozturk[1]✉, Hamide Sayar[2], Tugba Karakas[1], Yasemin Akman[1]

Received: 25 October 2011 | **Returned for modification:** 25 March 2012 | **Accepted:** 21 May 2012

To the editor,

Orf is a disease caused by parapoxvirus, a double-stranded DNA virus that is prevalent among farming communities. The primary mammal hosts are sheep and goats, but humans can be infected by contact with an infected animal's mouth or contaminated fomites. Infection can result in pneumonia and other severe complications in sheep (1), but the disease in humans tends to be benign and self-limiting. It commonly manifests as a small ulcer or nodule on the hand or finger (2). Rarely, Orf infection in humans has been associated with systemic sequelae such as erythema multiforme or widespread papular or morbilliform eruptions (3).

We report the case of a 30-year-old man that discovered an induration on the second finger of his right hand (Fig. 1) 2 weeks before being seen in our clinic. A few days before we examined him, target lesions appeared on the back of his hand and his face (Fig. 2), and then the patient was transferred from another clinic to our clinic with suspected anthrax. The lesion first appeared as a small pustule 7 days after contact with a lamb that was showing typical Orf lesions during the holiday of the Feast of Sacrifice (Eid al-Adha). The patient works as a butcher. The patient had no constitutional symptoms or high fever. Upon dermatological examination, there was a lesion on the index finger of the patient's right hand about 1 cm in diameter, yellowish-brown, and crusted. There was a tender lymph node in his right axilla. Cultures of needle aspirates and swabs showed no fungi or pathogenic bacteria. Twelve days after the first lesion occurred on his hand, the patient suffered from itching, redness, and swelling on his hands, feet, and face. On his arms and legs bilaterally and on his face and ears there were multiple target-shaped macules. A cutaneous biopsy taken from an erythematous lesion on his hand showed vacuolization in the basal layer, perivascular infiltration of lymphoid cells in the dermoepidermal junction and superficial zone, edema in the papillary dermis, and erythrocyte extravasation. Due to the history and physical examination, the patient was diagnosed with Orf and erythema multiforme.

The patient was treated with 32 mg/per day methylprednisolone (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 resolved). In the 1st week of treatment, the patient's lesions improved dramatically.

Orf (also ecthyma contagiosum, contagious pustular dermatitis) is caused by parapoxvirus, a double-stranded DNA virus. The virus is usually founded in sheep and goats (4).

Lesions developing in humans are usually solitary (5). After a 3- to 10-day incubation period, a macule or a papule occurs, and then this lesion turns into a nodule. The illness is usually diagnosed by a physical examination and a history of contact with infected animals as seen in our patient (4). Differential diagnoses include pyoderma, herpetic whitlow, cowpox, pseudocowpox (milker's nodule), cat-scratch disease, anthrax, tularemia, primary inoculation tuberculosis, atypical mycobacteriosis, syphilitic chancre, sporotrichosis, keratoancanthoma, and pyogenic granuloma (5). In older lesions, PCR with Orf virus– or parapoxvirus-specific primers and DNA sequencing may still allow identification of viral material. In contrast, pseudocowpox (milker's nodule) can not be differentiated from Orf by its clinical appearance or by electron microscopy; it is only the primary source of infection—sheep/goats vs. cows— that distinguishes the two (5). PCR assays that differentiate the two viruses are not routinely available yet. Our patient was a butcher and his lesion was clinically consistent with Orf.

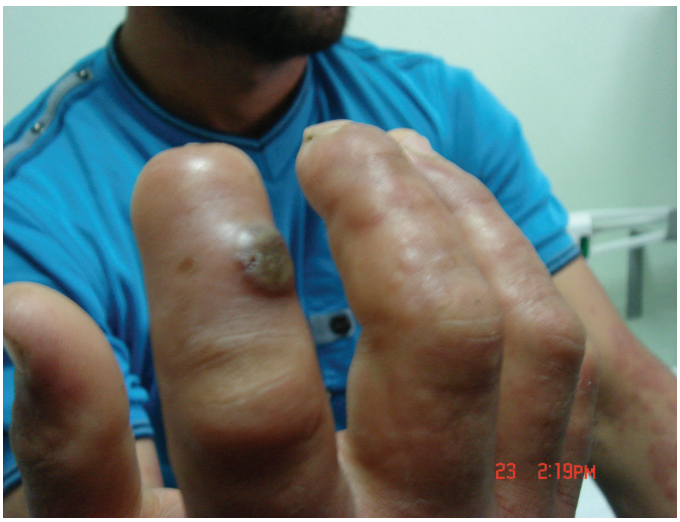

Figure 1 | An orf lesion on the finger.

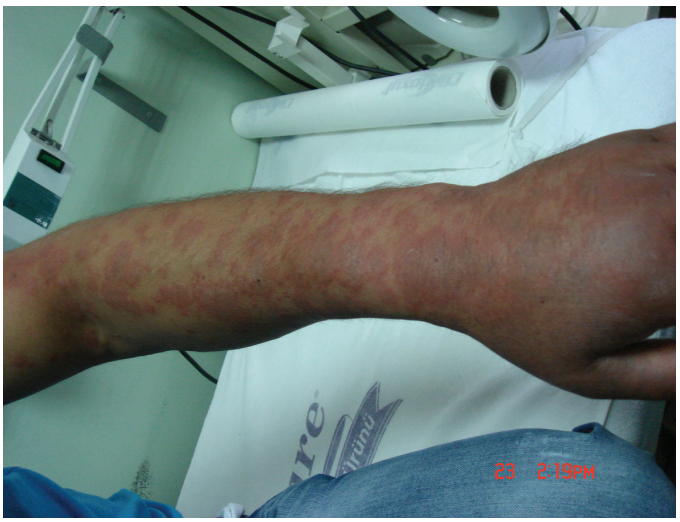

Figure 2 | Targetoid erythematous macules bilaterally on the back of the hand.

[1]Kahramanmaras Sutcu Imam University, School of Medicine, Department of Dermatology, Yorukselim mah. Hastane Cad. No. 32, 46050 Kahramanmaras, Turkey. [2]Kahramanmaras Sutcu Imam University, School of Medicine, Department of Pathology, Yorukselim mah. Hastane Cad. No. 32, 46050 Kahramanmaras, Turkey. ✉**Corresponding author: drperihanozturk@hotmail.com**

A review of the literature on human Orf infection reveals that some complications such as fever, lymphangitis, lymphadenopathy, and secondary bacterial infection have been noted (6, 7). Rare associations with papulovesicular eruptions have also been described, including a bullous pemphigoid-like eruption (5, 8).

The immune response to Orf infection is considered to be responsible for erythema multiforme (9). Development of erythema multiforme following Orf infection is very rare (4).

Spontaneous resolution occurs in about 4 to 6 weeks. The disease is usually self-limiting and there is no specific treatment. For the treatment of uncomplicated Orf infection, local antiseptic dressing is recommended in order to prevent secondary bacterial infections. Cidofovir cream and cryotherapy have recently been used successfully to treat very large lesions (4). Erbağci et al. reported that topical imiquimod may be an effective and safe therapy for complicated Orf cases (10). In our case, antiseptic wet dressing and mupirocin cream were used to treat Orf; topical and systemic steroids and cetirizine were used to treat erythema multiforme.

In conclusion, there might be some difficulties in diagnosing Orf due to its similarity in presentation to some diseases like anthrax, which may be considered by mistake. With the occurrence of a characteristic skin lesion, this diagnosis should be considered in members of certain occupational and religious groups known to be at risk.

References

1. Haig DM, Mercer AA. Ovine diseases: Orf. Vet Res. 1998;29:311-26.
2. Haig M. Orf virus infection and host immunity. Curr Opin Infect Dis. 2006;19:127-31.
3. Agger W, Webster S. Human Orf infection complicated by erythema multiforme. Cutis. 1983;31:334-8.
4. Schmidt E, Weissbrich B, Bröcker E-B, Fleischer K, Goebeler M, Stich A. Orf followed by erythema multiforme. J Eur Acad Dermatol Venereol. 2006;20:612-3.
5. Coskun O, Gul CH, Bilgeturk A, Besirbellioglu BA, Eyigun CP. Human Orf complicated with erythema multiforme. Int J Dermatol. 2008;47:1333-4.
6. Diven DG. An overview of poxviruses. J Am Acad Dermatol. 2001;44:1-14.
7. Murphy J, Ralfs I.Bullous pemphigoid complicating human Orf. Br J Dermatol. 1996;134:929-30.
8. White KP, Zedek DC, White WL, Simpson EL, Hester E, Morrison L, et al. Orf-induced immunobullous disease: A distinct autoimmune blistering disorder. J Am Acad Dermatol. 2008;58:49-55.
9. Aygun G, Cavuslu S, Cingil H, Birinci U. Erythema Multiforme ile Komplike Olmuş Bir Orf Olgusu. [A case of orf complicated with erythema multiforme]. Klimik Dergisi. 2000;13:39-40. Turkish
10. Erbağci Z, Erbağci I, Almila Tuncel A. Rapid improvement of human Orf (ecthyma contagiosum) with topical imiquimod cream: report of four complicated cases. J Dermatolog Treat. 2005;16:353-6.