

CASE REPORT

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A viral infection usually seen after feast of sacrifice: Human orf, in this case accompanied with erythema multiforme

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Abstract

Orf is an infectious disease caused by an epitheliotrophic double stranded deoxyribonucleic acid parapoxvirus which primarily affects sheep and goats but humans can also be infected by contact with infected animals. In Muslim countries, especially after the Feast of Sacrifice, the incidence of human orf increases. Although orf infection is benign and self limiting, it can interfere with work and result in repetitive visits to the emergency. Also recently, complications including erythema multiforme (EM) and bullous pemphigoid like eruptions, papulovesicular eruptions, epidermolysis bullosa acquisita have been reported with orf. Awareness of orf infection and related possible hypersensitivity reactions by the physicians, can reduce the unnecessary use of antibiotics and visits to the emergency.

Keywords: Orf, erythema multiforme, parapoxvirus

Introduction

Orf (contagious pustular dermatitis) is an infectious disease caused by an epitheliotrophic double stranded deoxyribonucleic acid parapoxvirus which primarily affects sheep and goats. The virus is endemic in sheep and goats worldwide and causes lesions especially around mouth and nose of them. Human beings can be infected by contact of the broken skin with infectious animal lesions or contaminated fomites. It is a common disease among farming communities [1-3].

Case Report

Our case was 51 year-old woman who had two hemorrhagic nodules on her fingers; erythematous papules on backs of the fingers and hands; targetoid lesions on bilateral palmar regions and urticarial papules on her knees and ankles (Figure 1).

First nodule on the right fourth finger appeared two weeks ago and the second one on the left index finger appeared two days thereafter. She had been taking antibiotic for nearly two weeks without a prominent effect and erythematous urticarial papules, targetoid lesions appeared in the last two days. The physician who prescribed antibiotics stopped the treatment when these eruptions appeared and referred the patient to us.

She complained about burning sensation and pruritus in these late lesions but nothing about the hemorrhagic nodules on fingers. The patient also reported that she had injured her right fourth finger with a knife while skinning the sheep head one month ago during the Feast of Sacrifice. Histological examination of the targetoid lesions revealed a spongiotic epidermis, vacuolization in the basal layer, marked oedema in the papillary dermis with perivascular lymphocytic infiltration in dermoepidermal junction leading to diagnosis of erythema multiforme.

Based on the clinical picture and history of contact with sheep, we made a diagnosis of orf infection complicated with EM. After one week of intravenous corticosteroid and antihistamine treatment along with wet compresses on orf nodules, erythema multiforme lesions disappeared along with a total recovery of the orf nodules in three weeks.

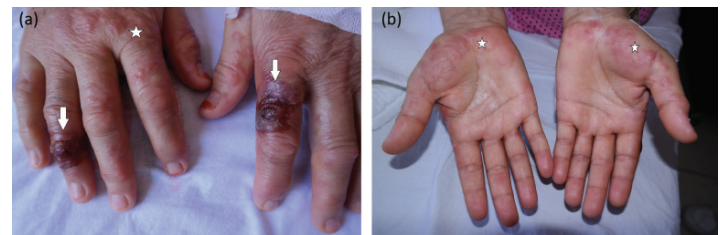


Figure 1: (a) Orf lesions seen as hemorrhagic weeping nodules (white arrows) and erythematous papules of erythema multiforme (white pentagram). (b) Bilateral targetoid palmar lesions of erythema multiforme (white pentagrams).

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Discussion

Human orf infection is typically located on hand(s) or finger(s), lesions are usually solitary but sometimes two or more lesions can be seen. An orf lesion appears as a papule which slowly progresses to a weeping targetoid nodule that ulcerates and forms a crust. It is a benign self-limiting disease which usually regresses in 4-8 weeks without a specific treatment. [1-5].

Sometimes mild systemic symptoms like fever or malaise and local symptoms such as pain, pruritus can occur. Secondary bacterial infections, lymphangitis, axillary adenitis or contact dermatitis because of the creams applied are other complications which need attention.[1, 2, 5] Our case didn't have any symptom about orf lesions but she had burning sensation and pruritus in EM lesions. EM is an acute inflammatory disorder that presents with characteristic target lesions and possible mucosal involvement. Even if the majority of EM cases caused by herpes simplex virus type 1, other pathogens including viruses and bacteria, drugs such as nonsteroid anti-inflammatories, allopurinol, antibiotics, vaccinations, topical imiquimod have been reported as triggers. [6-8].

Cases of EM and more rarely cases with bullous pemphigoid like eruptions, papulovesicular eruptions, epidermolysis bullosa acquisita have been described after or concurrently with orf infection.[1-3,5,9,10] In the literature, patients with orf-associated EM were treated with topical and oral corticosteroids, antihistamines and antibiotics.[1-3,5] In a report by Erbağcı et al [4], topical imiquimod was found to be successful in the treatment of four cases of orf complicated with EM in whom topical corticosteroids and antihistamines yielded no response.

Pathophysiology of this immune response is unclear but virus mimicry of host proteins (molecular mimicry) or alteration of the basement membrane proteins by virus can be the responsible mechanism [9,10]. But in our case treatment with antibiotic coexisted so EM might be because of a drug associated reaction or a synergistic effect of concurrent drug and virus exposure. Further immunological studies are needed to determine whether antibiotics play a role in orf induced EM.

In Muslim countries, especially after the Feast of Sacrifice, the incidence of human orf infection increases as the contact with animals or raw meat occurs more frequently than anytime [1-3]. Our patient was observed after one month from Feast of Sacrifice too. Orf lesions can resemble other localized poxvirus infections like pseudocowpox as well as more serious conditions like anthrax, pyogenic granuloma or neoplasia [5]. These differential diagnoses

can cause unnecessary use of antibiotics as it happened in our patient. She took ampicillin sulbactam for three days and later on ciprofloxacin for two weeks without a response.

Conclusion

Although orf infection is benign and self limiting, it can interfere with work and result in repetitive visits to the emergency because of its disease progress. Obtaining a history of animal exposure both in rural and urban areas can guide diagnosis. Especially in our country religious animal slaughtering and home butchering are quite common so awareness of orf infection and related possible hypersensitivity reactions by the physicians, can reduce the unnecessary use of antibiotics and visits to the emergency.

Competing interests

The authors declare that they have no competing interest.

Financial Disclosure

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References

1. Coskun O, Gul CH, Bilgeturk A, et al. Human orf complicated with erythema multiforme. *Int J Dermatol.* 2008;47(12):1333-4.
2. Ozturk P, Sayar H, Karakas T, et al. Erythema multiforme as a result of orf disease. *Acta Dermatovenerol Alp Pannonica Adriat.* 2012;21(2):45-6.
3. Biazar T, Shokri M, Hosseinnia H, et al. Erythema multiforme as a result of orf disease; a case report. *Emerg (Tehran).* 2016;4(3):163-5.
4. Erbağcı Z, Erbağcı I, Almıla Tuncel A. Rapid improvement of human orf (ecthyma contagiosum) with topical imiquimod cream: report of four complicated cases. *J Dermatolog Treat.* 2005;16(5):353-6.
5. Joseph RH, Haddad FA, Matthews AL, et al. Erythema multiforme after orf virus infection: a report of two cases and literature review. *Epidemiol Infect.* 2015;143(2):385-90.
6. Hiernickel C, Elsner P. Erythema multiforme as a complication of vaccination (occupational accident). *J Dtsch Dermatol Ges.* 2017;15(8):848-9.
7. Chan MYL, Kennedy J, Oakley A. Erythema multiforme triggered by imiquimod 5% cream. *Australas J Dermatol.* 2017;59(4):257-8.
8. Siedner-Weintraub Y, Gross I, David A, et al. Paediatric erythema multiforme: epidemiological, clinical and laboratory characteristics. *Acta Derm Venereol.* 2017;97(4):489-92.
9. Zuelgaray E, Salle de Chou C, Gottlieb J, et al. Human orf complicated by epidermolysis bullosa acquisita. *Br J Dermatol.* 2017;24.
10. White KP, Zedek DC, White WL, et al. Orf-induced immunobullous disease: A distinct autoimmune blistering disorder. *J Am Acad Dermatol.* 2008;58(1):49-55.