

Dermatology Reports

Erythema multiforme following Orf viral infection: a comprehensive review of the literature with a case report highlight

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SUPPLEMENTARY MATERIAL

Supplementary Table 1. Summary review of reported cases involving erythema multiforme triggered by Orf viral infection.

Case (year)	Number of patients	Gender/Age (years)	Animal	Diagnosis	Management
Johannessen JV <i>et al.</i> ⁸ (1975)	16	9 males/NA 7 females/NA	NA	Clinical	NA
Agger WA <i>et al.</i> ⁹ (1983)	1	Female/35	Lamb/Goat	Clinical	Oral corticosteroid, Schamberg's topical solution
Bassioukas K <i>et al.</i> ¹⁰ (1993)	2	Female/30 (1) Female/31 (2)	Sheep (1) NA (2)	Clinical and biopsy (1) Clinical (2)	Intravenous corticosteroid (1) No treatment (2)
Erbagci Z <i>et al.</i> ¹¹ (2005)	2	Female/25 (1) Female/56 (2)	Raw meat (1) Sheep (2)	Clinical (1)(2)	Topical imiquimod cream (resistant to topical steroid) (1)(2)
Schmidt E <i>et al.</i> ¹² (2006)	1	Male/44	Lamb	Clinical	Topical corticosteroid
Coskun O <i>et al.</i> ¹³ (2008)	1	Male/37	Lamb	Clinical and biopsy	Topical corticosteroid

de Wet C <i>et al.</i> ¹⁴ (2011)	2	Male/47 (1) Female/42 (2)	Sheep (1)(2)	Clinical (1)(2)	Oral antibiotic (flucloxacillin) (1) Oral antibiotic (clarithromycin), and systemic antihistamine (2)
Ozturk P <i>et al.</i> ¹⁵ (2012)	1	Male/30	Raw meat	Clinical and biopsy	Intravenous corticosteroid, topical mupirocin, oral cetirizine, and wet dressing with antiseptic solution
Durdu M <i>et al.</i> ¹⁶ (2014)	2	NA	NA	Clinical and biopsy	Topical corticosteroid
Shahmoradi Z <i>et al.</i> ¹⁷ (2014)	1	Female/37	Raw meat	Clinical	Oral cetirizine, topical corticosteroid, topical mupirocin, and wet dressing with antiseptic solution
Yorulmaz A <i>et al.</i> ¹⁸ (2014)	1	Female/50	Lamb	Clinical and biopsy	Topical corticosteroid, systemic antihistamine, and intramuscular corticosteroids
Joseph RH <i>et al.</i> ³ (2015)	2	Female/30 (1) Male/38 (2)	Lamb/Sheep (1) Lamb (2)	Clinical and biopsy (1)(2)	Oral antibiotic (sulfamethoxazole-trimethoprim), doxycycline, topical and oral corticosteroid (1) Oral antibiotic (amoxicillin), and systemic antihistamine (2)
Gallina L <i>et al.</i> ¹⁹ (2015)	1	Male/34	Raw meat	Clinical and biopsy	Oral corticosteroid, topical rifamycin, and oral tetracycline
Alian S <i>et al.</i> ²⁰ (2015)	1	Female/36	Sheep	Clinical and biopsy	Oral corticosteroid
Biazar T <i>et al.</i> ²¹ (2016)	2	Female/45 (1) Female/32 (2)	Sheep	Clinical (1)(2)	Low dose intravenous corticosteroid, and systemic antihistamine
Maman M <i>et al.</i> ²² (2017)	1	Female/9	Sheep	Clinical	Intravenous antibiotic (amoxicillin + clavulanic acid and clindamycin), oral corticosteroid, and systemic antihistamine
López-Cedeño A <i>et al.</i> ²³ (2018)	1	Male/6	Sheep/Goat	Clinical	No treatment
Khouna A <i>et al.</i> ²⁴ (2019)	1	Female/31	Sheep	Clinical	No treatment

Wu K <i>et al.</i> ²⁵ (2021)	1	Female/18	Calf	Clinical and biopsy	Topical corticosteroid
Cavalieri C <i>et al.</i> ²⁶ (2022)	1	Male/26	Sheep/Raw meat	Clinical	No treatment
Salvi M <i>et al.</i> ²⁷ (2024)	1	Female/51	Goat	Clinical and biopsy	No treatment
Alkallabi <i>et al.</i> (2024) (our case)	1	Female/41	Raw meat	Clinical and biopsy	Topical corticosteroid, topical imiquimod, and systemic antihistamine

NA, not applicable.

References

1. Adams B. Human Orf complicated with erythema multiforme. *Int J Dermatol* 2008;47:1334-6.
2. Bologna JL. *Dermatology Philadelphia, USA: Elsevier Saunders*; 2012.
3. 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;143:385-90.
4. Al-Qattan MM. Orf infection of the hand. *J Hand Surg Am* 2011;36:1855-8.
5. Diven DG. An overview of poxviruses. *J Am Acad Dermatol* 2001;44:1-16.
6. White KP, Zedek DC, White WL, et al. Orf-induced immunobullous disease: a distinct autoimmune blistering disorder. *J Am Acad Dermatol* 2008;58:49-55.
7. Schmidt E, Weissbrich B, Bröcker EB, et al. Orf followed by erythema multiforme. *J Eur Acad Dermatol Venereol* 2006;20:612-3.
8. Johannessen JV, Krogh HK, Solberg I, et al. Human Orf. *J Cutan Pathol* 1975;2:265-83.
9. Agger WA, Webster SB. Human Orf infection complicated by erythema multiforme. *Cutis* 1983;31:334-8.
10. Bassioulas K, Orfanidou A, Stergiopoulou CH, Hatzis J. Orf. Clinical and epidemiological study. *Australas J Dermatol* 1993;34:119-23.
11. 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.
12. Schmidt E, Weissbrich B, Bröcker EB, et al. Orf followed by erythema multiforme. *J Eur Acad Dermatol Venereol* 2006;20:612-3.
13. Coskun O, Gul CH, Bilgeturk A, et al. Human Orf complicated with erythema multiforme. *Int J Dermatol* 2008;47:1333-4.
14. de Wet C, Murie J. Lamb pays lip service: two cases of ecthyma contagiosum (Orf). *Scott Med J* 2011;56:59.
15. Ozturk P, Sayar H, Karakas T, Akman Y. Erythema multiforme as a result of Orf disease. *Acta Dermatovenerol Alp Pannonica Adriat* 2012;21:45-6.
16. Durdu M, Ruocco V. Clinical and cytologic features of antibiotic-resistant acute paronychia. *J Am Acad Dermatol* 2014;70:120-6.e1.

17. Shahmoradi Z, Abtahi-Naeini B, Pourazizi M, Meidani M. Orf Disease Following "Eid ul-Adha": A Rare Cause of Erythema Multiforme. *Int J Prev Med* 2014;5:912-4.
18. Yorulmaz A, Artüz Rf, Yayla Yg, Kayaçetin S. A Case of Human Orf Complicated with Atypical Erythema Multiforme. *Türkiye Klinikleri J Dermatol* 2014;24:115-8.
19. Gallina L, Veronese F, Farinelli P, et al. Erythema multiforme after Orf virus infection. *Epidemiol Infect* 2016;144:88-9.
20. Alian S, Ahangarkani F, Arabsheybani S. A Case of Orf Disease Complicated with Erythema Multiforme and Bullous Pemphigoid-Like Eruptions. *Case Rep Infect Dis* 2015;2015:105484.
21. Biazar T, Shokri M, Hosseinnia H, Bayani M. Erythema Multiforme as a Result of Orf Disease; a Case Report. *Emerg (Tehran)* 2016;4:163-5.
22. Maman M, Medhioub Y. Ectyma contagiosum compliqué d'érythème polymorphe: à propos d'un cas. *Archives de Pédiatrie* 2017;24:1241-3.
23. López-Cedeño A, Cañedo G, Knöpfel N, et al. Erythema multiforme after Orf virus infection. *Pediatr Dermatol* 2018;35:e237-8.
24. Khouna A, Bazouti S, Zerrouki N, et al. Multiforme erythema complicating an Orf. *Our Dermatol Online* 2019;10:68-70.
25. Wu K, de Menezes S, Robinson A. Erythema Multiforme Induced by a "Milker's Nodule" Pseudocowpox Infection: A Case Report and Review of Literature. *Case Rep Dermatol Med* 2021;2021:5584773.
26. Cavalieri C, Dupond AS, Ferrier-Rembert A, et al. Orf Nodule with Erythema Multiforme during a Monkeypox Outbreak, France, 2022. *Emerg Infect Dis* 2023;29:860-2.
27. Salvi M, Tiecco G, Rossi L, et al. Finger nodules with a papulovesicular hands and feet eruption: a complicated human Orf virus infection. *BMC Infect Dis* 2024;24:95.