Rapidly Growing Nodule on the Finger of a 20-year-old Woman: A Quiz

Alexander ZINK[1], Alicia PICHLMEIER[2], Tatjana FISCHER[1] and Tilo BIEDERMANN[1]
[1]Department of Dermatology and Allergy, Technical University of Munich, Biedersteiner Str. 29, DE-80802 Munich, and [2]Department of Veterinary Sciences, University of Munich, Munich, Germany. E-mail: alexander.zink@tum.de

A 20-year-old woman with no medical history presented to our dermatology department with a painless swelling over her left middle finger. The lesion had developed 2 weeks earlier as a small "red dot", which then developed continuously into a large nodule. Clinical examination revealed a 1.5-cm diameter large nodule with a central subsided crust and erythematous demarcation on the left middle finger (Fig. 1). Otherwise there were no further pathological clinical findings: The patient was healthy, afebrile, and her finger was not tender on direct palpation, did not feel hot, was able to move fully, and was neurovascularly intact. Furthermore, there was no palpable lymphadenopathy. Blood count and clinical chemistry did not show any pathological findings.

What is your diagnosis? See next page for answer.

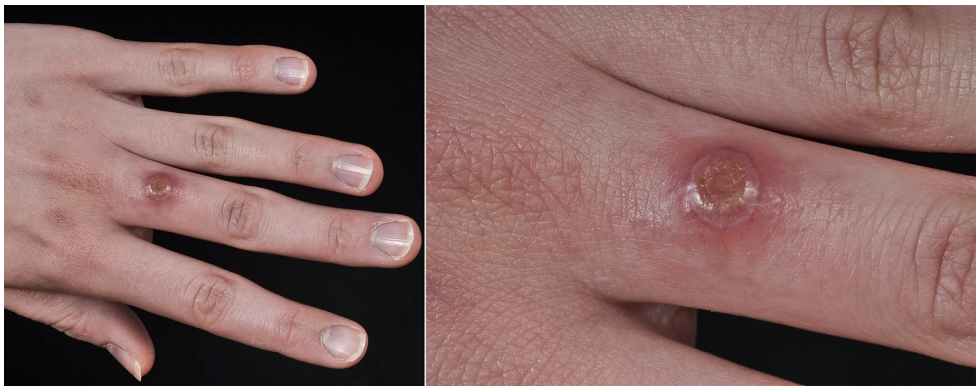

Fig. 1. Overview and close-up of a large nodule on the left middle finger.

doi: 10.2340/00015555-2868
Acta Derm Venereol 2018; 98: 469–470

ANSWERS TO QUIZ

Rapidly Growing Nodule on the Finger of a 20-year-old Woman: A Commentary

Acta Derm Venereol 2018; 98: 469–470.

Diagnosis: **Contagious ecthyma (orf)**

Suspecting an infectious agent, we asked the patient whether she had had any contact with animals prior to the onset of the lesion. She reported that she was a veterinary medicine student and had completed a 4-week hands-on internship on a sheep farm one week before the lesion had developed. She had had close daily contact with sheep, and especially new-born lambs during and after birth. Suspecting a diagnosis of contagious ecthyma, we took swabs from the skin lesion, which revealed parapoxvirus in the PCR analysis. Furthermore, sequencing of the complete HA gene and B2L gene (500 bp) of parapoxvirus (1) revealed the highest correlation with orf virus (parapoxvirus ovis), which confirmed our clinical diagnosis. PCR analysis of additional swabs taken for microbiology analysis did not show any bacterial or fungal agents.

Contagious ecthyma, also known as orf or orf's disease, is a viral zoonotic disease caused by parapoxvirus ovis (orf virus), the prototype of the parapoxvirus genus with epitheliotropic DNA (2). It primarily occurs in sheep and goats worldwide, but also camels, and manifests in these animals as an acute skin condition with substantial morbidity (3, 4). Humans can be infected through direct contact with diseased animals. Most cases occur in humans with occupational exposure to the above-mentioned animals (e.g. farmers, shepherds, butchers), with rare reports in veterinarians, petting-zoo visitors, and practitioners of religious animal sacrifice (5). Human to human infections are extremely rare, with few reports in the literature (6, 7). Therefore, a meticulous anamnesis is essential to reveal any possible contact with animals, which indicates the correct diagnosis and makes a punch biopsy for histological evaluation unnecessary. Typically, orf lesions in humans initially appear as a small erythematous macule after an incubation period of approximately 3–8 days (2). Within a few days the initial skin lesion forms into a papule, which progresses continuously into a nodular, and often vesicular, targeted lesion. The nodule ulcerates, develops a crust, then usually resolves spontaneously and completely within 3–6 weeks. Typically, as in the patient described here, there are no systemic symptoms and the patients do not feel ill. However, it is well known that contagious ecthyma can trigger erythema multiforme (8). The disease is self-limiting and therefore does not usually require specific treatment (9–11), although there are several different treatment options, including cryotherapy, imiquimod, acyclovir and intralesional interferon injections (12–14). Local antiseptic treatment, however, is recommended to prevent bacterial super-infection. In our patient, local antiseptic treatment with eosin 2% solution was given and the contagious ecthyma disappeared completely without scarring within 6 weeks.

REFERENCES

1. Inoshima Y, Morooka A, Sentsui H. Detection and diagnosis of parapoxvirus by the polymerase chain reaction. J Virol Methods 2000; 84: 201–208.
2. Bergqvist C, Kurban M, Abbas O. Orf virus infection. Rev Med Virol 2017; 27 (4). Epub 2017 May 8.
3. Robinson AJ. Prevalence of contagious pustular dermatitis (orf) in six million lambs at slaughter: a three-year study. N Z Vet J 1983; 31: 161–163.
4. van Straten M, Friedgut O, Even-Tov B. Outbreak of contagious ecthyma in camels in Israel. Vet Rec 2001; 148: 150–151.
5. Caravaglio JV, Khachemoune A. Orf virus infection in humans: a review with a focus on advances in diagnosis and treatment. J Drugs Dermatol 2017; 16: 684–689.
6. Rajkomar V, Hannah M, Coulson IH, Owen CM. A case of human to human transmission of orf between mother and child. Clin Exp Dermatol 2016; 41: 60–63.
7. Kitchen M, Müller H, Zobl A, Windisch A, Romani N, Huemer H. ORF virus infection in a hunter in Western Austria, presumably transmitted by game. Acta Derm Venereol 2014; 94: 212–214.
8. Joseph RH, Haddad FA, Matthews AL, Maroufi A, Monroe B, Reynolds M. Erythema multiforme after orf virus infection: a report of two cases and literature review. Epidemiol Infect 2015; 143: 385–390.
9. Revenga F, Paricio JF, del Agua C, Merino FJ. Facial orf. J Eur Acad Dermatol Venereol 2001; 15: 80–81.
10. Jansen T. Der ist wohl vom wilden Schaf gebissen. MMW Fortschr Med 2016; 158: 7.
11. Rørdam OM, Grimstad Ø, Spigset O, Ryggen K. Giant orf with prolonged recovery in a patient with psoriatic arthritis treated with etanercept. Acta Derm Venereol 2013; 93: 487–488.
12. Polivka L, Moguelet P, Meritet JF, Ouali N, Francès C, Senet P. Giant orf tumor in an immunocompromised patient. J Eur Acad Dermatol Venereol 2017 May 23. [Epub ahead of print].
13. Ara M, Zaballos P, Sánchez M, Querol I, Zubiri ML, Simal E, Hörndler C. Giant and recurrent orf virus infection in a renal transplant recipient treated with imiquimod. J Am Acad Dermatol 2008; 58: S39–S40.
14. Ran M, Lee M, Gong J, Lin Z, Li R. Oral acyclovir and intralesional interferon injections for treatment of giant pyogenic granuloma-like lesions in an immunocompromised patient with human Orf. JAMA Dermatol 2015; 151: 1032–1034.