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Human Orf – An Under Recognized Zoonotic Infection

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Background

- Human orf infections are self-limiting, occupational zoonotic infections which are under-reported
- It is endemic in many parts of the world
- In the Middle-East it is commonly associated with animal slaughtering during religious festivals
- Many physicians are unfamiliar with this clinical entity and misdiagnose it

Clinical History

- 58-year-old Arab male
- Progressively enlarging reddish swelling over radial aspect of right index finger - 3 weeks - minimal local discomfort
- Initially began as a red small patch and rapidly worsened to occupy half the finger
- Denied fever, night sweats, weight loss or other systemic symptoms
- No pets at home
- Patient recollected having slaughtered a sheep in observance of a ritual for the religious festival of Eid Al-Adha one week prior to the onset of the lesion
- PMH: hypertension, dyslipidemia, vitiligo

Physical Examination

- A reddish, violaceous target-like plaque (2.5 x 2.5 cms size) (**figure 1**) with a central yellowish-white area which appeared pus filled, with a surrounding bulla, and a bright red rim
- Aspiration attempted from the lesion did not yield any fluid or pus
- Systemic examination - unremarkable.
- Treated with oral augmentin, local fucidin ointment and saline compresses for presumed abscess
- After a week, patient presented to ER with rapid increase in size of the lesion, and axillary tenderness. The lesion had become more flattened out with a raw granulomatous appearing base (**figure 2**)
- Tender axillary lymphadenopathy of the same side noted
- At the next follow up one week later, the plaque was covered by a thin crust through which black dots were seen. (**Figure 3**)
- Based on the epidemiology and evolution of the skin lesion and associated examination findings, a clinical diagnosis of 'orf' was made
- At 2-weeks follow-up visit the lesion had almost resolved

Figure 1: Acute 'weeping' stage : Targetoid lesion with a white rim and a peripheral red halo

Figure 2: Irregular lesion with granulomatous base

Figure 3: 'Regenerative' dry stage, with black dots

Discussion

- Orf /Ecthyma contagiosum - a zoonotic infectionby the parapox DNA virus is primarily seen in sheeps and goats
- Occupational predominance in farmers, herders, sheep shearers, vets and abattoir workers who do not seek medical advice and hence is underreported
- Incubation period - 4 days to 2 weeks
- Principally skin is involved and temporal association with skin trauma is noted. Fever, malaise and lymphadenopathy may accompany the lesions
- Complications are rare
- Disease course - dramatic yet benign and self- limited Spontaneous resolution within 6-8 weeks with minimal or no scarring
- Lesions - solitary and progress through 6 stages, each lasting approximately one week including maculopapular, target, weeping inflamed nodule, regenerative early crusting, papillomatous late crusting and regressive

Differential diagnosis of hand lesions
1. Skin abscess
2. Cutnaeous anthrax
3. Sporotrichosis
4. Pyogenic granuloma
5. Keratoacanthoma

- Confirmation can be done by fluorescent antibody tests, electron microscopy, PCR and identification of specific viral nucleic acid sequences
- Treatment is usually not necessary as lesions resolve spontaneously
- Accurate and prompt detection is imperative
- Physicians should not be caught unaware of this possibility

References

1. Al-Qattan MM. Orf infection of the hand. J Hand Surg 2011;36:1855 -8
2. Erbagci Z, Erbagci I, Almila Tuncel A. 2005. Rapid improvement of human orf (ecthyma contagiosum) with topical imiquimod cream: report of four complicated cases. *J Dermatolog Treat*, 16:353–6.