CASE REPORT

Paediatric recurrent herpetic whitlow

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SUMMARY

We present a case of recurrent painful blisters of middle phalanx of the left ring finger of a 15-month-old previously healthy and immunocompetent female child. These lesions initially were confused with infective bacterial whitlow, treated with incision and drainage, and later with cigarette burns which led to referral to child protection team. Paediatric dermatologist finally diagnosed after scraping and virology culture. The patient had recovery following full treatment with topical and systemic acyclovir. She presented again at the age of 4 with recurrence which required topical and systemic acyclovir therapy with good recovery. It is important to be aware of the danger of incorrect diagnosis, raising child protection concerns and management leading to danger of cross infection and serious illness especially in the immunocompromised patients.

BACKGROUND

Herpetic whitlow is a herpes simplex virus (HSV) type 1 or 2 infection of the fingers or thumb characterised by erythema and painful, non-purulent vesicles.^{1–8} Recurrent herpetic whitlow is usually a benign but painful nuisance. The condition most commonly affects healthcare professionals and children, although anyone can become infected.^{1–3 6}

CASE PRESENTATION

A previously healthy and immunocompetent 15-month-old female child presented to her general practitioner with recurrent painful and red blistering lesion over the dorsum of the middle phalanx of her left ring finger. There had been three episodes in all in following 6 months. It had been treated on different occasions by the general practitioner, the local accident and emergency department and the plastic surgical team with incision and drainage, antibiotics and poultices. It always resolved slowly, but over a period of 2–3 weeks.

As it was recurring at intervals, she was suspected to have possibility of child abuse and possible cigarette burns for which the social services, the general practitioner and the community paediatric teams were activated. However, there was no evidence of strong suspicion on this front and this led her referral to paediatric dermatologists.

On deeper enquiry by the team, the mother told that the patient was playing with grandfather when he had febrile illness and some blisters on his lips. She used to touch his lips with her fingers while playing and her lesion followed in few days time.

INVESTIGATIONS

The paediatric dermatology team took scrapings from the lesion which grew herpes simplex type 1 virus and the diagnosis was established.

DIFFERENTIAL DIAGNOSIS

Differential diagnosis of bacterial infective whitlow and cigarette burns with recurrent blisters secondary to non-accidental injury were considered earlier in the management of this case.

TREATMENT

The patient was treated with topical and systemic acyclovir therapy and the whitlow healed slowly over a period of 3 weeks. She was advised about future drug prophylaxis and possibility of recurrence.

OUTCOME AND FOLLOW-UP

The patient presented at the age of 4 with blistering lesions associated with pain, redness and tenderness of the same region of the left ring finger. She had developed left axillary lymphadenitis as well. It was diagnosed as an infected recurrent herpetic whitlow with acute left axillary lymphadenitis and given topical and systemic acyclovir therapy in association with co-amoxiclav and regular oral analgesia. She made slow and steady recovery in 3 weeks. At 2-year follow-up she was asymptomatic and well.

DISCUSSION

Herpetic whitlow is a HSV type 1 or 2 infection of the fingers characterised by multiple, erythematous and painful, non-purulent vesicles, first described in adults in 1909. In children it typically occurs after autoinoculation from herpes stomatitis, herpes labialis or genitalis.^{1–3 8} Occasionally person-to-person transmission occurs from family members with herpes labialis as in our case.

Herpetic whitlow in children follows direct inoculation (patient or parents/carers) or reactivation of latent virus. In children, it most frequently occurs following a primary oral herpes infection.⁸ In adolescents, herpetic whitlow is commonly associated with genital herpes infections when they become sexually active. In adults, it frequently occurs in medical personnel who have contact with patients' oral secretions or is associated with genital herpes infections.⁶ It can occur in immunocompromised child.⁵

The diagnosis of herpetic whitlow is readily confirmed by Tzanck test and culture. It is important to distinguish herpetic whitlow from bacterial felon or paronychia, as herpetic whitlow is a self-limited infection for which surgical incision is not

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indicated.^{5 6} Coexistent blistering dactylitis and herpetic whitlow have been reported in children. The implementation of universal precautions has resulted in a decrease in the incidence of occupation-related cases.

MEDLINE search of published paediatric patients (English, French and German language) found 42 identified patients, 72% were younger than 2 years, most had endogenous or exogenous inoculation of HSV type 1 and 65% were initially misdiagnosed as having 'bacterial felon'. Recurrences were reported in 23%.⁸

Treatment of recurrent herpetic whitlow is not well documented and precise treatment guidelines for this HSV infection are not firmly established. Treatment at the onset of prodromal symptoms may prevent cutaneous manifestations. Treatment during the acute phase is generally ineffective. After primary infection, the virus establishes a life-long latency in the sensory ganglia and recurrences may occur at an unpredictable rate. Patients with mild disease may benefit from topical therapy, and those with severe and frequent recurrences may be considered for intermittent or long-term oral antiviral therapy.

Misdiagnosis may lead to cross-infection and serious illness in immunocompromised, surgery can cause prolonged healing and pain, secondary infection and encephalitis.⁸ Healthcare workers may best avoid infection by observing universal precautions at all times—the virus is found in 2–5% of normal adult saliva and 6–5% of bronchial secretions of hospital patients with tracheostomies. It can be a significant problem for doctors as in the case of the surgical resident who had to stop direct patient care for 10 days/month over a 4 years period because of a recurrent whitlow.⁹

Contributors All authors are actively involved in the patient management clinically and have contributed towards collection, analysis and interpretation of the patient-related data and in writing the manuscript, collecting the references and constructively criticise it.

Competing interests None.

Patient consent Obtained.

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REFERENCES

- 1 Murphy AP, Martin P, Jukka CM, *et al.* Recurrent primary paediatric herpetic whitlow of the big toe. *BMJ Case Rep.* Published Online: 21 Feb 2013. doi:10.1136/bcr-2013-008598.
- 2 Karpathios T, Moustaki M, Yiallouris P, *et al.* HSV-2 meningitis disseminated from a herpetic whitlow. *Paediatr Int Child Health* 2012;32:121–2.
- 3 Murthy SC, Shetty S. Herpetic whitlow. *Ind Pediatr* 2011;48:665.
- 4 Usatine RP, Tinitigan R. Nongenital herpes simplex virus. *Am Fam Physician* 2010;82:1075–82.
- 5 El Hachem M, Bernardi S, Giraldo L, *et al.* Herpetic whitlow as a harbinger of pediatric HIV-1 infection. *Pediatr Dermatol* 2005;22:119–21.
- 6 Browning WD, McCarthy JP. A case series: herpes simplex virus as an occupational hazard. *J Esthet Restor Dent* 2012;24:61–6.
- 7 Kopriva F. Recurrent herpetic whitlow in an immune competent girl without vesicular lesions. *Eur J Pediatr* 2002;161:120–1.
- 8 Szinnai G, Schaad UB, Heininger U. Multiple herpetic whitlow lesions in a 4-year-old girl: case report and review of the literature. *Eur J Pediatr* 2001;160:528–33.
- 9 Laskin L. Acyclovir and suppression of frequently recurring herpetic whitlow. *Ann Intern Med* 1985;102:494–5.

Learning points

- In children with whitlow, the risk of herpes simplex virus 1, although rare in immunocompetent, should be considered if the lesions are multiple, erythematous, painful and non-purulent vesicles.
- Specific diagnosis can be made by PCR or culture.
- The high rate of misdiagnosed cases indicates that this entity is not sufficiently known.
- Lesions are self-limited; surgical interventions and raising concerns of child protection can be harmful and should be avoided.
- Recurrences occur as frequently as in adults.

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