A 6-Year-Old Girl with Painful Rash on her Left Lower Extremity

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A 6-year-old girl presented to our outpatient department with complaint of a painful rash on her left lower extremity for the past 4 days. The rash had started as vesicles and blisters on her left buttock. Over the next few days, new painful lesions erupted on her left thigh, leg, ankle, and foot. The child was febrile (a temperature of 100°F) and irritable, but otherwise well and alert. Her body weight was 21 kg. Her vaccination history was standard and up-to-date. She was normal for her developmental milestones and there was no history of any major illness. Family history was non-significant. Systems examination was normal.

On cutaneous examination, several coalescing vesicles and blisters were present on the left side of her external genitalia (Figure 1A), on her left buttock, on her posterior thigh, leg, ankle, and on the dorsum of her foot (Figures 1B and 1C). There were no other skin or mucosal lesions. Left inguinal lymph nodes were enlarged and tender.

A Tzanck smear was prepared from one of the vesicles, which revealed presence of multinucleated giant cells (Figure 2).

Editor’s note: Each month, this department features a discussion of an unusual diagnosis. A description and images are presented, followed by the diagnosis and an explanation of how the diagnosis was determined. As always, your comments are welcome via email at pedann@Healio.com.

Figure 1. Vesicles and blisters on the left side of the girl’s external genitalia (A), posterior thigh (B), and dorsum of her left foot (C).
Diagnosis:
Herpes Zoster (Shingles)

This child, with dermatomal distribution of acute onset, painful vesiculobullous lesions, was diagnosed with herpes zoster. She was prescribed acyclovir 200 mg (as a dispersible tablet) to be taken five times per day for 7 days, along with supportive treatment for her symptoms. The lesions healed without any sequelae.

DISCUSSION

Herpes zoster (“shingles”) is an acute, painful, blistering illness distributed in a dermatomal fashion that is caused by reactivation of latent varicella-zoster virus (VZV). VZV is an alpha-herpes virus, infection with which primarily results in viremia and widespread eruption (“chicken pox”/varicella). After the resolution of varicella, VZV remains dormant in dorsal nerve root ganglia; reactivation of latent VZV results in herpes zoster. Zoster is more common and severe in adults, particularly in the elderly, and in patients with malignancy and who are immunocompromised. However, herpes zoster can rarely occur in the pediatric age group.

Maternal varicella early in pregnancy (between the 7th and 20th week of gestation) can result in fetal infection and fetal varicella syndrome in approximately 2% of cases. Later in the course of pregnancy, congenital infection may also rarely cause intrauterine zoster and zoster in infancy. In cases of intrauterine zoster, the neonate has dermatomal vesicular lesions or scarring. However, incidence rates of zoster are low in the pediatric age group (0.45 per thousand patient-years in children aged 0 to 14 years) and lowest in children aged 0 to 5 years. Predisposing factors for pediatric zoster include immunosuppression, malignancy (eg, leukemias), and children who had varicella in their first year of life.

Children may experience symptoms such as fever and malaise before cutaneous lesions of zoster appear. The first symptom of shingles is usually pain in the area of one or more sensory nerves. The pain may be sharply localized to the same area, but may also be more diffuse. The patients usually feel unwell with pruritus/burning, low-grade fever, malaise, headache, and regional painful lymphadenopathy. Within 24 to 72 hours, a blistering rash appears in the painful area of the skin. Sometimes, especially in children, zoster may be painless. Very rarely, skin lesions may not appear at all (“zoster sine eruption”). In uncomplicated cases in normal children, recovery usually takes about 2 to 3 weeks.

The nerves that are most commonly affected (in order of frequency) are the thoracic, cervical, ophthalmic, and lumbar-sacral sensory. Risk of postherpetic neuralgia and other complications is much less in the pediatric age group compared with the elderly, although a German study found that complications were more frequent in immunocompetent pediatric zoster patients.

The laboratory diagnosis of zoster can be made by Tzanck smear of scrapings from the floor of the vesicles and direct fluorescent antibody tests on similar smears. Serologically, there will be high or rising titers to the VZV. Definitive diagnosis is by isolation of the VZV in virus culture; however, facility for culture and virus isolation are noted. The prognosis in an otherwise healthy child is excellent.

CONCLUSION

Herpes zoster (shingles) is a very rare disease in the pediatric age group. Varicella in infancy is a major risk factor for herpes zoster in immunocompromised as well as immunocompetent children; however, most cases of childhood shingles occur in otherwise healthy children. The diagnosis must always be considered when skin lesions in dermatomal pattern are noted. The prognosis in an otherwise healthy child is excellent.

Systemic acyclovir therapy started within 3 days of onset of the skin lesions prevents significant morbidity.

REFERENCES