PENILE EROSIONS ASSOCIATED WITH FOSCARNET THERAPY IN A CHILD

Abstract: Foscarnet-induced genital erosions have been reported in patients treated for HIV-related herpesvirus infections in adults. We report the case of a boy with penile erosions associated with foscarnet therapy in the setting of umbilical cord blood transplantation (CBT).

Foscarnet (trisodium phosphonoformate) is an intravenous antiviral agent used in patients with ganciclovir-resistant cytomegalovirus (CMV) and acyclovir-resistant herpes simplex virus (HSV) infections. Foscarnet-induced penile erosions in men (1-3) and vulvar erosions in women (4) have been reported primarily in patients with underlying HIV-associated CMV retinitis. Diagnosis is made clinically and the mechanism of injury is unknown.

CASE REPORT

A 24-month-old circumcised boy was admitted to the bone marrow transplant ward for nonrelated umbilical cord blood transplant to treat mucopolysaccharidosis I (Hurler syndrome). Prior to conditioning with busulfan, cyclophosphamide, and anti-thymocyte globulin, routine serum screening detected copies of CMV-DNA by polymerase chain reaction. He was, therefore, treated with prophylactic intravenous acyclovir. On day seven following CBT, PCR studies demonstrated increased copies of CMV DNA. Acyclovir was discontinued and intravenous foscarnet was initiated on day nine. CMV DNA reverted to an undetectable level by day 20 and foscarnet maintenance therapy continued. Well-demarcated erythematous erosions surrounding the urethral meatus extending to the ventral shaft were observed on day 30. A small amount of yellow discharge adhered to the surface of the erosions. Two additional erosions were present on the left lateral penile shaft. A background of well-demarcated macular hypopigmentation was present in the area covered by the diaper. The patient was intermittently febrile but had no lymphadenopathy. The patient cried with urination and cleansing. Direct fluorescent antibody testing from the erosions was negative for varicella zoster virus and HSV. Potassium hydroxide examination and fungal culture were not performed, but the patient was receiving broad-spectrum antimicrobial coverage for bacteria and fungus. Epstein–Barr virus serology was not evaluated. His leukocyte count was 200 cells/μL. Zinc oxide-containing ointment was applied to the area without improvement. Foscarnet was discontinued and acyclovir was restarted. Dysuria improved by day 33 and improvement in the penile erosions was observed by day 37.

DISCUSSION

Foscarnet has been observed to cause genital ulceration in HIV-positive men (1-3) and women (4) treated for CMV and HSV infections. Up to 10% of patients on foscarnet therapy may discontinue treatment due to these painful genital erosions (5).

Foscarnet is a synthetic inorganic pyrophosphate analog that interrupts CMV and HSV replication by inhibiting viral DNA and RNA polymerases (3). Greater than 90% of foscarnet is excreted unchanged in urine. Topical application of foscarnet 3% cream for treatment of genital HSV infection causes erythema, erosion, and ulceration on subpreputial skin (1,2), effects not seen with 0.3% or 1% formulations (2). Foscarnet-induced penile erosions have been reported as a fixed drug eruption, but this has not been supported by histology in biopsied cases (3). Rather a contact balanitis due to an irritant effect from foscarnet has been proposed (1).
To our knowledge this is the first reported case of foscarnet-induced penile erosions in a child. Recognition of this important drug side effect will spare children extensive evaluations for other disorders, and discontinuation of foscarnet generally leads to rapid resolution of the cutaneous lesions.

REFERENCES

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TWO REPORTS OF PHACOMATOSIS
PIGMENTOVASCULARIS TYPE IIb, ONE IN ASSOCIATION WITH STURGE-WEBER SYNDROME AND KLIPPEL-TRENAUNAY SYNDROME

Abstract: We present two rare cases of phacomatosis pigmentovascularis type IIb, with one patient demonstrating concurrent Sturge-Weber syndrome and Klippel-Trenaunay syndrome. To the best of our knowledge, this is the second infantile case meeting diagnostic criteria for systemic phacomatosis pigmentovascularis type IIb, Sturge-Weber syndrome and Klippel-Trenaunay syndrome in the English language literature.

CASE REPORTS
Patient 1
A 4-week-old Caucasian boy with a history of glaucoma of the left eye was brought to our clinic with reticulated pink macules consistent with capillary malformations (port wine stains) and blue-gray macules consistent with dermal melanocytosis (Mongolian spots) covering most of his body (Fig. 1A,B). Additionally, he was noted to have macrocephaly, frontal bossing, and decreased gross motor skills with hypotonia. He was diagnosed with phacomatosis pigmentovascularis (PPV) type IIb.

Patient 2
This patient was a Caucasian boy noted at birth to have dark pink macules involving the right V1 and left V1 and V2 dermatomal distributions on his face consistent with capillary malformations, which were also present on his trunk and left leg. Blue-gray macules, consistent with dermal melanocytosis, were present on the face, scalp, back, and legs. Additionally, he had an enlarged circumference of the left leg, glaucoma of his left eye, and a right eye choroidal hemangioma. At fifteen months of age, the patient developed partial complex seizures. Magnetic resonance imaging of the abdomen and extremities revealed a 1.1 by 0.6 cm focus interpreted as a small liver hemangioma and left-sided hemihypertrophy with an associated abnormal venous channel. Magnetic resonance imaging of the head revealed leptomeningeal enhancement of the frontoparietal and occipitoparietal regions and dilated periventricular veins. Given the constellation of findings, this child was diagnosed with PPV type IIb, Klippel-Trenaunay syndrome (KTS), and Sturge-Weber syndrome (SWS).

DISCUSSION
Over 6 decades ago, Ota coined the term phacomatosis pigmentovascularis to define the association between pigmented lesions and cutaneous vascular malformations (1). The traditional classification system identifies five categories of PPV according to the presence of certain types of nevi (2).

In all types of PPV, it is estimated that half of the patients present with systemic manifestations in addition to cutaneous lesions. In a review by Fernandez-Guarino, it was found that PPV type II comprised 77% of the 222 known cases of PPV, and 60% of these were systemic in nature (2). Systemic associations reported in the literature include ocular, neurologic, vascular, musculoskeletal, renal, and immunologic anomalies (2–5). The associations of SWS and KTS, occurring individually with PPV, are also well documented (3,5,6). In fact, SWS and KTS have been reported as the most common associations in systemic forms of PPV (6).