Interstitial Keratitis Following Varicella Vaccination

Varicella is a highly transmissible disease caused by the varicella-zoster virus, with the most common manifestations being a maculo-papular and/or vesicular rash accompanied by a fever. Current vaccination recommendations by the Advisory Committee on Immunization Practices include the administration of a vaccine for the prevention of varicella in children. Rare cases of ocular disease (sclerokeratouveitis and anterior uveitis) following varicella vaccination have been reported in the literature, associated with both the live attenuated Oka strain used in the vaccine and the wild-type virus. We report a case of avascular interstitial keratitis following the administration of the varicella vaccine. To our knowledge, this complication of the Oka strain vaccine has not been previously reported.

Report of a Case. An 11-year-old girl was referred for new-onset blurry vision in the right eye 2 weeks after being vaccinated with the Oka strain of the varicella-zoster virus (Varivax; Merck and Co, Inc, Whitehouse Station, New Jersey). A standard dose of 0.5 mL was injected into the left deltoid without any resulting skin reaction. Her medical history was significant for mild eczema and a seizure disorder treated with daily oral levetiracetam, and results of an ocular examination 1 year prior were normal. One week following the administration of the vaccine, she developed rhinitis and a mild fever that lasted 2 days. Two weeks following the vaccination, she noted blurry vision and photophobia in the right eye and her mother noted 3 white spots on the cornea. On examination, visual acuity measured 20/30 OD and 20/20 OS. Corneal sensation was normal in both eyes. Intraocular pressure measured 14 mm Hg OD and 18 mm Hg OS. There was no conjunctival injection or anterior chamber inflammation. In the right cornea, there were several well-circumscribed avascular opacities that appeared to be white blood cells at varying stromal depths (Figure 1). The left eye was unaffected. The posterior segment examination results were normal in both eyes. Epstein-Barr virus DNA was not detected by polymerase chain reaction. The patient was treated with a 1-month course of prednisolone acetate, 1%, starting at 4 times per day, with resolution of the interstitial keratitis at 2 weeks and return of visual acuity to 20/20 OD (Figure 2). At the 6-month follow-up visit, there was no sign of recurrence.

Figure 1. Interstitial keratitis before treatment with well-circumscribed avascular opacities at varying stromal depths (A), and a slitbeam showing stromal opacity (B).

Figure 2. Improved interstitial keratitis following corticosteroid treatment.
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Author Contributions: Dr Acharya had full access to all of the data in the study and takes responsibility for the integrity of the data and the accuracy of the data analysis.

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Comment. Complications of the Varivax vaccine have included disease caused by both wild-type and Oka strain varicella-zoster virus. There are few reports of ocular manifestations after varicella vaccination in the literature, and we found no previous reports describing avascular interstitial keratitis. In the case that we have reported, the close temporal association of the vaccination and the development of a corticosteroid-responsive keratitis lead us to suggest that this complication represented an immune-mediated response to the vaccine strain. One possible explanation for the unilateral nature of the case is that she rubbed 1 eye with a hand that had previously touched her site of inoculation, leading to unilateral antigen presentation to the cornea and unilateral disease. Unilateral disease has frequently been described following smallpox vaccination, presumably from this type of touch. In addition, systemic diseases may also manifest unilaterally. Immune-mediated interstitial keratitis should be recognized as a possible adverse effect of the varicella vaccine.

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Orbital Ganglioneuroma in a Young Healthy Person

Ganglioneuroma is considered to be the benign counterpart of neuroblastoma. Orbital involvement of ganglioneuroma is extremely rare, and to our knowledge only 2 cases have been reported. One was a case of direct extension to the orbit from an adjacent sinus, and the other was in a patient who had a history of stage IV neuroblastoma. This is the first reported case of orbital ganglioneuroma in a young healthy person.

Report of a Case. A 15-year-old Korean boy had progressive proptosis of the right eye during a 4-year period (Figure 1). The proptosis had advanced at an increasing rate in the 6 months leading up to the patient’s initial visit. His general medical history was unremarkable. Eye examination disclosed 2 mm of proptosis in the right eye. His best-corrected visual acuity was 20/20 OU. Intraocular pressures were 16 mm Hg OD and 14 mm Hg OS, and the pupils were reactive to light bilaterally with no afferent pupillary defect. Funduscopic examination revealed no abnormal findings.

Magnetic resonance imaging and computed tomography of the orbit obtained before biopsy showed an irregularly enhancing mass (2.7 × 1.7 × 2.7 cm) in the right, infratemporal, extraconal space along with bony hypertrophy of the zygoma (Figure 2 and Figure 3). The neoplasm appeared homogeneous in composition and there was no evidence of bony metastasis. During incisional biopsy, a lesion with a gray-tan surface was found to be adherent to the adjacent bony structures. Histopathologic examination showed mature ganglion cells in a neurofibrillary matrix with no neuroblastic component. Immunoreactivity for S-100 protein and synaptophysin was positive in the ganglion cells (Figure 4). These findings were consistent with ganglioneuroma. A secondary operation for debulking the mass and reshap-