Case Report

An Unusual Cause of Acute Otitis Externa in an Infant

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Abstract

An 8-month-old female presented with fever, ear pain with discharge, and a facial rash. The patient was initially diagnosed by her pediatrician with bacterial otitis media but did not improve on oral antibiotics. Subsequent evaluation by Otolaryngology found the child to have otitis externa caused by Herpes Simplex Virus (HSV). The patient was successfully treated without sequelae. This atypical case of HSV otitis externa serves to highlight the inclusion in the differential diagnosis of an otologic infection in an infant.

ABBREVIATIONS

HSV-1: Herpes Simplex Virus Type 1; AOE: Acute Otitis Externa

CASE PRESENTATION

An otherwise healthy 8-month-old female presented to the pediatric otolaryngology clinic on direct referral from her pediatrician due to a three-day history of fever up to 38 degrees Celsius, a draining ear, and a facial rash not improving after 48 hours of oral antibiotics. Physical examination revealed a non-toxic appearing child. The right pre-auricular region had inflammation and a maculopapular rash with mild crusting extending onto the face/cheek by approximately 3 centimeters (Figure 1). A thick discharge with a foul odor was emanating from the right ear. Under the microscope, the right ear canal mucosa was found to be raw with inflammation, while the tympanic membrane appeared normal. An otowick was placed in the right ear canal. The left external ear and tympanic membrane were normal. The remainder of the head and neck examination was normal. The patient was diagnosed with a severe right external otitis infection and associated facial rash. She was prescribed Ciprodex ear drops and extra-strength Augmentin pending results of the cultures.

The culture with smear returned showing very rare polymorphonuclear cells, no epithelial cells and very rare gram-positive cocci. The viral PCR culture returned positive for Herpes Simplex Virus Type 1 (HSV-1). Upon discussing results with the patient’s parents, the mother revealed that she had suffered personally from Herpes simplex Type 1 “cold sore” lesions around her lips for many years. Mom then commented about her practice of kissing the baby’s ears multiple times per day even when her lesions are present.

In consultation with the pediatric infectious disease service, the patient was given one week of both oral and topical Acyclovir. 48 hours later, there was noted improvement with near complete resolution of her right ear canal drainage and inflammation. Two
months after treatment, the facial rash was completely resolved. Four months after the initial flare-up, the right ear developed some debris with no active facial rash and a repeat culture grew Herpes simplex Virus Type 1 and staph epidermidis. The child was placed on topical Acyclovir along with isopropyl alcohol and acetic acid drops for two weeks along with frequent ear suctioning/debridement leading to complete resolution of the process. Subsequent follow up exams over a 12-month period showed a normal right ear canal, tympanic membrane and facial skin.

DISCUSSION

HSV-1 is astonishingly common, currently found in about 66% of the population. In children of ages 6-13 years, seroprevalence sits at about 31.1%, suggesting that a significant amount of transmissions occur at a young age [1,2]. Childhood transmission is typically a result of non-sexual contact with oral secretions. HSV-1 causes a variety of infections including skin infections known as herpes gladitorum, which is typically found on the upper body of sportsman such as wrestlers. It manifests as a vesiculopustular rash on an erythematous base [1]. The distribution on the body stresses the concept of needing direct contact with a lesion or bodily secretion, such as saliva, in order to transmit HSV-1. The child presented in our case likely developed the infection from the active lesions on her mother’s lips.

HSV-1 has rarely been implicated as a cause for acute otitis externa (AOE), commonly as most AOE stems from Pseudomonas aeruginosa or Staphalococcus Aureus [3]. Few cases of otitis externa caused by HSV-1 have been confirmed. One such case established the presence of herpes virus via PCR analysis of a vesicular fluid sample in an 18-year-old patient with an initial diagnosis of otitis externa that manifested as “weeping and crusting” lesions along with a vesicle on the pinna. Comparably, the tympanic membrane was clear, suggesting lack of otitis media. The likely source of the infection in this scenario was from sharing cigarettes [4]. Our case of otitis externa caused by HSV-1 is the first ever reported in an infant.

Children or adults with AOE that have an associated rash, crusting or discharge of the tragal/ facial region should be cultured and evaluated for potential HSV. Patients should also be monitored for potential long term sequela of HSV-1 such as recurrent episodes of vesicular rash stemming from dormant reactivation of the virus within a nearby sensory ganglion or erythema multiforme which manifests as a cutaneous maculopapular rash composed of target lesions. Reoccurrence can also be associated with a painful or unpleasant prodrome of the affected region that can be a tingling or burning sensation.

REFERENCES