

Complexity of Chronic Suppurative Otitis Media in the setting of Immunodeficiency and Drug-Reactions

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A 9-year-old female was admitted to the pediatric hospital medicine service for bilateral otalgia, postauricular pain, and blood-tinged otorrhea from the left ear concerning for acute mastoiditis. Relevant past medical history included chronic suppurative otitis media with conductive hearing loss, recurrent upper respiratory infections, and a nonspecific B-cell immunodeficiency. Surgical and social histories respectively included 10 tympanoplasties in the past 5 years and 42 missed school days in the last academic year. She was followed by ENT and Allergy-Immunology with plan for mastoidectomies in 4-6 months as well as IVIG.

Upon further review, the patient had been hospitalized multiple times for treatment of chronic otitis media secondary to several drug-resistant organisms, including MRSA, Pseudomonas, and Aspergillus. Her hospitalizations were complicated by several drug reactions, specifically to antifungals. These included a photosensitivity rash with burns secondary to Voriconazole, acute urticaria from Isavuconazole, reactive arthritis from Caspofungin, and electrolyte derangements from Amphotericin B.

On physical exam, both tympanic membranes were perforated with purulent, non-bloody effusions. Prior CT Temporal Bone with and without contrast was consistent with left otomastoiditis. During admission, cultures were obtained from left ear exudate; and Infectious Disease and ENT services were consulted to assist in the patient's treatment plan due to the complexity of the patient's history. The hospital medicine team coordinated communication between subspecialties and the family, which enabled family-centered, goal-concordant interventions. This led first to an expedited inpatient mastoidectomy and tympanoplasty. Cultures of the ear exudate grew Aspergillus, and cultures obtained during tympanostomy grew MRSA, both organisms of which have been associated with chronic otitis media, especially in the setting of immunodeficiency. The hospital medicine team subsequently advocated for a trial of oral Posocanazole as recommended by ID while the patient was hospitalized to ensure patient tolerance. She was discharged in good condition on an extended course of Posocanazole and Clindamycin.

Recognizing the complex nature of the patient's case as well as her traumatic experience with treatment trials and interventions, proactive communication between provider teams was essential to the establishment of both an expeditious and conservative treatment plan. This case highlights that advocacy and interprofessional collaboration based on patient/family goals can enhance the overall quality of care when placed at the center of treatment decisions. Moreover, this case presented a valuable educational opportunity to appreciate infectious complications in the setting of immunodeficiency as well as the manifestations of and treatment limitations due to adverse drug reactions.