

Case Report of a Woman with Recurrent Thrush and Pneumonia

Abstract

I present to you a case report of a challenging patient with a history of recurrent fungal infections of nails and feet, recurrent thrush and recurrent bacterial pneumonia requiring treatment with intravenous antibiotics to treat. Case report includes her clinical history and work up.

Keywords: Immune deficiency; Specific antibody deficiency; Humoral defect; Recurrent pneumonia

Abbreviations: IL-17: Interleukin 17; STAT 1: Signal Transducers and Activators of Transcription 1; VATS: Video assisted thoracoscopic surgery

Case Report

A 57 year old female was referred by the infectious disease service for further evaluation for immunodeficiency. She has had a lifelong history of recurrent “boils” (where? anatomically speaking) that have been treated with incision and drainage. She has also had a history of fungal infection of her nails of her hands and feet. She describes the soles of her feet as always having scaling and thickening of the skin. She describes having one to two sinus infections per year that responded to one course of oral antibiotics. She has lost all of her teeth in her 30s due to enamel issues and wears complete dentures. In 2011, she was diagnosed with adenocarcinoma of her lung and underwent a video assisted thoracoscopic surgery (VATS) with complete resection of the tumor. She did not require any further therapy for her cancer. Subsequently, she developed recurrent bacterial pneumonias with streptococcal pneumonia. She also developed recurrent oral candidiasis which was recalcitrant to topical and oral antifungal therapy. She had decreasing energy, watery diarrhea without blood, and weight loss. She had been treated for eight pneumonias by the time she was evaluated in immunology clinic.

Her physical exam was notable for a petite woman who had cheilitis as well as thick white plaque in her mouth especially on her tongue. She also has complete dentures but gums are not erythematous. She also had hyperkeratosis nails of hands and more severe on her feet. Her skin on the soles of her feet was notable for fissuring/cracking and scaling. Her lung sounds were coarse with crackles and rales at the bases. The rest of her exam was otherwise unremarkable including normal liver, spleen and lymph nodes.

Lab testing was conducted to evaluate her immune function. She had a normal blood count and differential, normal liver enzymes and kidney function. Her lymphocyte enumeration revealed normal CD45, CD3, CD19, CD16/56, CD4, and CD8 numbers. Immunoglobulin levels were also normal (IgG 1350, IgM

334, IgA 231, and IgE 83). She had antibody titers to tetanus and diphtheria both was normal. Pneumococcal antibody titers were only positive to 9 out of 23 serotypes. She had normal neutrophil oxidative burst, normal complement, negative HIV test, normal mutagen response to pokeweed and phytohemagglutinin (PHA). Her lymphocyte response to stimulation with *Candida* was diminished with the CD45 cells but normal in the CD3 population.

She then underwent vaccine challenge with pneumovax and had titers repeated in 4 weeks. She did have a good response with 14 serotypes positive and ten serotypes doubled [1]. She also underwent IL17, STAT1 testing as well as B cell immunophenotyping. The results were negative for both IL17 and STAT1 testing. Detailed analysis of her B cells showed she had an abnormally skewed mature B cell population and was consistent with humoral defect. (How can you say that? Details, please – B cell populations, how many tests?)

Discussion

This patient’s clinical history and constellation of infections could be seen in STAT1 gain of function mutations [2]. These patients do have a humoral defect but also are more likely to get fungal infections of the skin. Common variable immune deficiency and also specific antibody deficiency were also in the differential diagnosis. Hyper immunoglobulin E syndrome (HIES) could also be in the differential diagnosis but this patient had normal IgE levels.

She was started on a trial of intravenous immunoglobulin G therapy. After her first few infusions she began improving with her energy level. She became more active and also started gaining weight. She transitioned successfully to subcutaneous immunoglobulin G therapy. She has continued to do well with immunoglobulin replacement therapy. Her pulmonary infections have stopped but she still gets thrush but is overall improving.

Case Report

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