Allergic Reaction in a Female High School Softball Player

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Background: Our subject is a sixteen-year-old female softball player. She was taken to the emergency room on June 17, 2009 for a possible drug allergic reaction/interaction. She had been taking Lamictal for four weeks for a diagnosis of a "possible mild bipolar disorder" and Cefadroxil for two weeks for an unknown condition causing cervical adenitis. She returned to her pediatrician the following day with peeling of the lips and increasing macular rash involving the trunk. The pediatrician recommended Benadryl 50 mg t.i.d. On June 19, she returned to the ER again. Now, she had developed blisters and bullae on the chest. She also had worsening lip lesions and mouth sores so severe she was unable to drink liquids. She was admitted to a local hospital in Wenatchee, Washington that day. The rash gradually progressed and she developed a fever of 105 degrees F.
Differential Diagnosis: Stevens-Johnson syndrome, Transdermal Epidermal Necrolysis, viral exanthems, toxic shock/toxic strep syndrome, exfoliative erythroderma, staphylococcal scalded skin syndrome, Kawasaki disease.
Treatment: Diagnostics included a chest x-ray that was negative except for questionable perihilar infiltrate in the lungs. Urinalysis was negative. CBC was normal (WBC was on the high end of normal, 10,000/cu.mm).
Based upon the patient's history of new medications and physical signs/symptoms, the diagnosis of Stevens-Johnson Syndrome (SJS), a life-threatening skin disease that causes rash, skin peeling, and sores on the mucous membranes, was made. She was started on morphine, Benadryl, Cipro Zithromax, and Ativan intravenously. Despite this, she continued to have fevers of 104-105 degrees F. The rash gradually increased in size (>35% skin involvement) which put the subject in the advanced category of Toxic Epidermal Necrolysis (TEN). The lesions were positive for staphylococcus aureus. After consultation with specialists at a regional trauma center in Seattle, Washington, she was transferred to the center's burn unit on June 24, 2009, after six days in the local hospital in Wenatchee. Upon arrival in Seattle, she was immediately taken to the operating room where 1,000 sq/cm. of skin was debrided. Xenografts of pigskin were used to cover the scalp, face, neck, chest, and forearms. She received daily wound care with daily xeroform and bacitracin. Our subject was started on nasogastric feeds due to the lesions in the upper digestive tract. Following the debridement and xenografts, some improvement was noted. After eleven days, the feeding tube was removed and the patient was given soft fruit and juices. On July 7, 2009, she was discharged and returned home. As the patient's skin healed under the skin grafts, the pigskin dried up and eventually fell off. **Uniqueness:** Stevens-Johnson syndrome is a rare condition, with a reported incidence of about 2.6-6.1 per million people/year. There are still unanswered questions with this case including: Why was this reaction so severe to these medications? Was this a drug interaction or a single drug reaction? Why was the

patient's upper body more dramatically affected than her lower body? Stevens-Johnson syndrome is an immune-complex–mediated hypersensitivity disorder that may be caused by medications, viral infections, and malignancies. Pathologically, cell death results causing separation of the epidermis from the dermis. **Conclusion:** Our subject has recovered remarkably well with only minimal scarring. However, the SJS/TEN did trigger rheumatoid arthritis primarily in her knees and ankles that causes considerable pain and dysfunction. Her vision has also deteriorated and she now requires fluorometholone eye drops. It has also been estimated that she has a 95% chance of miscarrying due to the reproductive system damage caused by the SJS/TEN. Athletic trainers must be aware of SJS as a unique, severe condition and refer suspected athletes quickly to appropriate medical facilities. **Word Count:** 600