The Effects of Ceramide Deficiency on a Recalcitrant Skin Lesion in an Intramural Athlete: A Case Study
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Background: The focus of our study is a 35-year-old Caucasian male weighing 200 pounds with a height of 73 inches. He is an intramural athlete who participates in weight lifting, cardio training and team sports. Past medical history includes skin rash on left calf diagnosed as purigo nodularis in 2004; otherwise healthy and unremarkable. Athlete sought out the help of the certified athletic trainer due to an insidious skin lesion on his right lateral malleolus, which he reported as “itchy and painful to the touch”. On inspection the certified athletic trainer noted that it was flat, warm to the touch and crusted over with desquamous skin. There was purulent drainage from the lesion, but no detectable odor. The area showed diffuse swelling and signs of acute infection at the site of the lesion and throughout the ankle. A bacterial infection was suspected, the lesion was covered and the athlete was referred to his primary care physician for further evaluation. Differential Diagnosis: Bacterial infection (MRSA), insect bite, diabetes mellitus (types I and II), squamous cell carcinoma, xerosis, eczema, leprosy, psoriasis, and dermatitis (atopic, contact, and seborrheic). Treatment: The pathogenesis of the lesion was documented using a camera and marked margins along with various tissue and blood samples obtained and investigated by the referred dermatologist and primary care physician. The interventions time line is as follows: 11/4/10 lesion size 4.5 cm x 2.2 cm prescribed Cefalexin (Keflex®) 250mg tid x10 days and Mupirocin 2% topical ointment tid. On 11/10/10 the Mupirocin 2% was discontinued due to lesion size increase to 8.5 cm x 6 cm and the patient was referred to a dermatologist for further testing. Upon examination by the dermatologist he was diagnosed with a ceramide deficiency. From 11/26/10 to 12/14/10 the patient was instructed to use Cerave® cream tid, clobetasol propionate 5% cream bid and change his diet to include food rich in healthy oils. The patient experienced full resolution of the lesion by 12/26/10. Uniqueness: Skin disorders and infections are common in athletes. An athlete with an autoimmune ceramide deficiency will respond differently to the typical course of treatment for skin infections making this case a unique scenario worthy of exploration. Conclusions: In many instances individuals with ceramide deficiencies are more susceptible to aggressive spread of atopic dermatitis and are unable to stave off an over abundance of staphylococcus bacteria. These alterations thereby produce the same signs and symptoms of a MRSA infection, but do not respond to the usual course of treatment making them outliers to the status quo. Mupirocin 2% topical ointment seemed to exacerbate the inflammatory aspect of the lesion while the Cefalexin did as expected and controlled the infection aspect. Athletic trainers must be informed as to the possibility of these outliers and understand how to respond accordingly to better serve their patient populations. Word Count: 474