

Case Report

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Erythrodermic Pustular Psoriasis Triggered by Subcutaneous Flu Vaccine

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Abstract

A 59-year old man was admitted with severe pustular psoriasis all over his body that was triggered by a flu vaccine injection 8 days before admission. Until then, his psoriasis was under control and was noticed slightly only on extensor tendons of the hands and around the elbows. He was treated with steroids and the skin eruption disappeared slowly within 3 days.

This is the first report of a patient with psoriasis who had a flare up of the autoimmune skin disease following vaccination.

Introduction

Immune mediated inflammatory diseases cover a group of diseases (Rheumatoid Arthritis, Inflammatory Bowel Disease, Psoriasis) that share some genetic predispositions and inflammatory pathways characterized by cytokine dysregulation. Vaccination is a wellestablished strategy for prevention of infectious diseases in patients who are immune deficient. Until now no case report has been published describing Psoriasis exacerbation following flu vaccination.

Case Report

A 59 years old gentleman was admitted with erythematous pustular psoriasis all over his body, including the fingers of his hands and feet, along the arms and legs, on the trunk and abdomen, and on the neck and shoulders. He does not recall such an event since he started to suffer from Psoriasis 30 years ago, and he is well treated and the disease is well controlled by maintenance treatment of Neotigason 25 mg a day. He is known to be a heavy smoker with more than 60 packed years, and it is the first time in his life time that he got a flu vaccine to prevent infection. The vaccine was VAXIGRIP and he got it as a subcutaneous injection 8 days before admission. 2 days post injection he started to feel itchy, becoming more aggressive from day to day, covering all his body 5 days post injection. He decided to get medical assistance and was admitted to the hospital on day 8 post injection.

On admission he had a very vast eruption, erythrodermic, pustular psoriatic skin with signs of scratches all over his body (Figures 1 and 2). On physical examination he had normal heart sounds with normal alveolar breathing, no peripheral edema and without organomegaly. All pulses were felt strong and no signs of neurological deficit. The blood work showed an ESR of 40 mm/hour, Hemoglobin 14.5 gram%, 12,000 leukocytes/mm³ (with Eosinophilia (1.2%), normal INR, but a short Prothrombin Time (22 s). Biochemical analysis showed normal



renal function, low albumin (2.80 grams) and high globulin (4.10 grams) with high LDH (1112). Liver enzymes and lipid profile and uric acid were within normal limits. Chest X-ray was normal.

The patient was treated with high dose systemic steroids (60 mg daily, without topical treatment) with a very good clinical and laboratory response with disappearance of the eosinophilia and the itching, and the skin eruption was slowly progressing towards normal appearance of a patient with psoriasis under control with psoriatic skin lesions only on the fingers and on the elbows and knees.

It is important to mention that he did not get any medications that could trigger such a flare up, like non-steroidal anti-inflammatory drugs. He did not suffer any pharyngeal infection or upper respiratory infection before admission and was not exposed to the sun.

Discussion

Our patient is the first patient that was reported to respond with such an aggressive skin reaction to flu vaccination. No such reports have been documented and were reported so far. It is now a common practice to vaccinate patients with immune mediated inflammatory



Figure 2: Erythrodermic pustular psoriatic skin eruption on the inside arms.

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diseases, and this approach has been proved to be safe and beneficial [1].

However, there are few case reports that have demonstrated erythrodermic pustular psoriasis triggered by intravesical Bacillus Calmette-Guerin (BCG) immunotherapy [2], the development of psoriatic arthropathy after BCG immunotherapy for bladder carcinoma [3], and the development of sub-acute thyroiditis and dyserythropoesis after influenza vaccination suggesting immune dysregulation [4]. It is possible that the flu immunization vaccine caused a "genetic mimicry" that triggered the auto-immune response of the psoriatic patient.

To summarize, our patient is the first one reported to develop an exacerbation of a latent, low-flamed psoriasis with characteristics of an allergic reaction with eosinophilia that responded within a few days to high dose systemic steroids.

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