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Case Report

The Case of an Unexpected Association of Two or More Skin Disorders That May Represent a Previously Unsuspected Causal Relation

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INTRODUCTION

Vitiligo is an autoimmune skin disorder that causes the skin to lose its pigmentation or color, and it generally begins to appear on the hands, forearms, face, and feet. Autoimmune disorders refer to those conditions in which the immune system attacks the person's healthy body tissue, unable to differentiate between foreign pathogens [1]. The immune system attacks and eventually eradicates the melanocytes in the body. Melanocyte cells produce melanin, a chemical substance that creates and provides this pigmentation in the skin, eyes, and hair. Although vitiligo affects both sexes and all races equally, it is more clearly visible in those with darker skin tones. Vitiligo is a skin condition that is associated with thyroid disorders, and patients with vitiligo can have up to 2.5 times higher risk of developing a thyroid disease [1]. The association between vitiligo and thyroid disease is due to both conditions being autoimmune disorders that contain hereditary components. The thyroid gland is an essential endocrine gland that plays a key role in producing and secreting certain hormones that regulate the metabolic rate of the body. Patients with vitiligo can simultaneously present several other autoimmune diseases, although there are specific factors that increase the chance of developing thyroid disorders. There is an additional association that involves other skin disorders that have similar correlating factors with thyroid disease.

Similarly, impetigo is characterized as a skin disorder that also affects the epidermis, the outermost layer of the skin. Impetigo is an infectious bacterial skin disease that is particularly common and highly transmissible. Bacteria can infect the epidermis in one of two ways, categorizing the disease as primary or secondary impetigo. It is usually bacteria like Staphylococcus aureus or Streptococcus pyogenes that infect the epidermis, resulting in clustered reddish sores on the skin [2]. Primary impetigo refers to when the infection attacks healthy skin, while secondary impetigo arises from a minor cut, bite, or rash. A study, based on reports from the Food and Drug Administration (FDA), analyzed how patients with impetigo also seem to have thyroid disorders, specifically, low thyroid levels [3]. In this case report, a patient with both these conditions is identified, and the discussion further expands on how their presentation in the skin and the symptoms have a causal relationship.

CASE PRESENTATION

The patient, a female in her mid-sixties, with vitiligo, presented with multiple light-colored macules and patches in her extremities, mainly visible in the forearms and legs. Her main concern is the most recent lesion, located on the bottom lip area, that had seemed to improve, but the pain is still persistent. Two distinct types of lesions can be observed in the skin: the first being light-toned macules, less than one centimeter wide, and patches, larger than one centimeter, in the forearms, arms, legs, and face. The patient indicates that the bottom lip lesion has recurrent erosions, and the pain level fluctuates each day. The lesion can be described as a sore that consequently turned into a blister and formed a crust around the affected site. Extensive laboratory testing was ordered, including a Herpes Simplex Virus (HSV) PCR test and a bacterial culture with gram stain; as well. The Herpes Simplex Virus

(HSV) PCR test, which detects the presence of the herpes virus, indicated a negative result. The bacterial culture with the Gram stain came back with a positive result for the Gram stain, but with negative results for the culture. Gram stain tests are utilized as pre analytical indicators of an existing bacterial infection and for providing acceptability for a future culture. The negative culture result could then indicate that the previously existing bacteria are no longer present. A nasopharyngeal culture was also collected to identify the organisms that may be present in the nasal secretions.

After the assessment and discussion of the pathogenesis and clinical findings, a treatment course was determined. The patient indicated an existing allergy to Prednisone medication which is mainly utilized to help suppress the immune system, and therefore decrease inflammation levels in the body. A potent antibiotic called Augmentin was then prescribed to treat the possible bacterial infection. The mucosal activity was clear at the time present, but since it was previously reported by the patient, a trial of Fluconazole was ordered. Fluconazole is an antifungal medication that can help improve any existing fungal infection in the esophageal tract. With the main objective of eliminating any mucosal inflammation that may be present in account of an existing infection or bacteria.

DISCUSSION

On the full physical examination, there were no indications of any new concerning pigmented lesions. The initial diagnosis of vitiligo has progressed into a possible case of impetigo disease in conjunction with vitiligo. The correlation between the previously diagnosed vitiligo and the patients' known thyroid level problems can indicate the causation of the impetiginized erosion located in the lip area. A biopsy is highly recommended to further diagnose and treat the lesion. The treatment plan was discussed in detail with the patient, and she was encouraged to ask questions pertaining to the clinical findings. The patient is refusing the treatment course at the time and is showing signs of frustration, due to how the disease symptoms are presenting in her skin. Most skin disorders show visible signs of the illness, which has a significant negative impact on the patients' quality of life. This can eventually lead to the patients' refusal of certain medication regimens, resulting in further failed treatment compliance. Physicians must take the time to explain and discuss both physical and clinical findings to their patients. An effectiveness in physician-patient communication increases the patient's positive and hopeful perspective, resulting in better adherence to treatment plans.

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