Case Report

A 53-Year-Old Woman with Persistent Erythroderma and Dyspnea

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ABSTRACT

A 53-year-old obese woman with history of obsessive compulsive disorder was referred to the general internal medicine clinic because of erythroderma and progressive dyspnea. Tapering psychiatric drugs and administering corticosteroids did not help her. A mild exudative pleural effusion and solid/cystic large ovarian masses were found in work-ups. The pathology of the masses was indicative of high-grade serous adenocarcinoma of ovaries. Five months after surgery and chemotherapies, her erythroderma resolved, confirming the diagnosis of paraneoplasric erythroderma due to ovarian cancer

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Introduction

Erythroderma is a sign per se which describes the condition in which the majority of the skin surface is erythematous, and is actually a diagnostic challenge in many cases. It could be a primary dermatologic condition, or a manifestation of internal diseases (1, 2). In this case report, we describe a patient with an important dermatologic problem (erythroderma), in addition to other findings attributed to the internal disorders, making the diagnosis more complex.

Case Report

A 53-year-old obese woman was referred to the general internal medicine clinic because of erythroderma and progressive dyspnea. She was well until 3 months before her problem; but after that, a diffuse pruritic reddening of skin and upper chest was developed. She was under treatment with psychological drugs such as fluvoxamine and chlordiazepoxide for obsessive compulsive disorder during the last 5 years. She also reported a history of using Indian henna a few days before initiation of skin reddening. She had been treated in dermatology hospital with tapering the psychological drugs, and administration topical and high-dose oral glucocorticoids. From 6 weeks before, a progressive dyspnea of functional class III was also developed.

She was complaining of decreased appetite and malaise. She reported an abdominal herniorhaphy 6 years before and experienced 8 successful pregnancies through 4 normal vaginal and 4 Cesarean section deliveries and reached menopause 5 years before.

On examination, an ill, middle-aged woman with a general erythema was observed. Except for a mild tachypnea (25 breath/min), other vital signs were normal. The body mass index was 35.16 kg/m^2. The skin erythema was visible in her face, scalp, upper chest, and back accompanying skin shedding. Her naso-labial folds and posterior auricular skin were also erythematous. The skin of dorsal surfaces of her hands, proximal interphalangeal joints (PIPs) and phalanxes and lower limbs were also erythematous (Figure 1). No lymphadenopathy was observed. Mild wheezing at the bases of both lungs was auscultated. Other examinations were normal.

The initial work-up revealed a mild normocytic anemia, high ferritin accompanied by low serum iron but normal total iron binding capacity, mildly elevated C-reactive protein (CRP) and erythrocyte sedimentation rate (ESR), normal liver and renal function. Anti-nuclear antibody and anti-dsDNA antibodies were negative. Chest X-ray (CXR) was also normal.

In dermatology hospital, skin biopsy revealed interface tissue pattern with high dyskeratotic cells and necrotic keratinocytes with vesiculations. Erythema multiforme-like drug eruption was the most probable diagnosis reported by pathologist. The direct immunofluorescence of skin was negative for immunoglobulin G and M (IgG and IgM), and C3 antibodies. There was no abnormality in muscle enzymes, aldolase and creatine phosphokinase.

To explore the patient's dyspnea cause, thoracic computed tomography (CT) scan was requested which showed a mild pleural effusion that in analysis was exudative and lymphocyte-dominant. The small amount of effusion did not allow for cytologic examinations. Abdominal ultrasonography revealed solid/cystic masses in ovaries. Pelvic magnetic resonance imaging (MRI) was performed (Figure 2), which showed bilateral solid/cystic mass in both ovaries, and two adjacent enlarged lymph nodes in left paraaortic region (< 18 mm) and serosal infiltration of uterine fundus, especially in left side, were visible. Mild ascites was also noted.

Diagnosis of primary ovarian cancer or the distant metastases to ovaries (Krukenberg tumor) was indicated for more diagnostic work-ups. Cancer antigen 125 (CA 125) was 822 U/ml, cancer antigen 19-9 (CA 19-9) was 42.6 U/ml, and carcinoembryonic antigen (CEA) was 5.0 µg/ml. Considering the previous surgeries of abdomen and possible adhesions, CT-guided biopsy of ovarian tumors was performed and pathologic examination showed undifferentiated high-grade carcinoma.

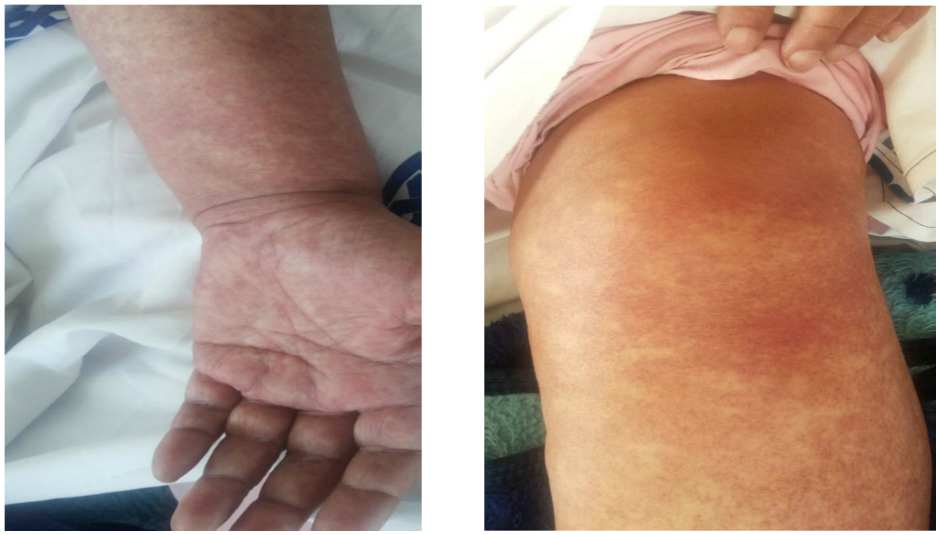

Figure 1. Erythroderma with involvement of upper and lower extremities

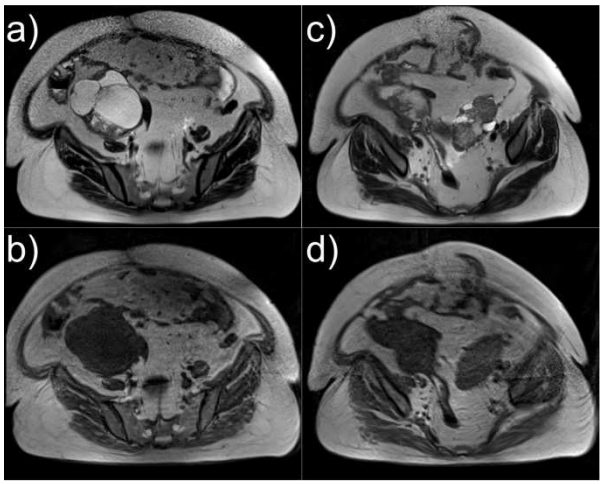

Figure 2. Magnetic resonance imaging (MRI) of pelvic for ovarian masses without contrast
a) T2-weighted view shows right multiple cystic ovarian mass (101 × 94 × 85 mm); b) T1-weighted view of the right mass; c) T2-weighted view shows left mixed solid/cystic ovarian mass (72 × 52 × 49 mm); d) T1-weighted view of the left mass

Finally, the patient underwent open surgery for excision of ovaries and uterus. Final diagnostic suggestion of the pathologist was poorly differentiated serous adenocarcinoma of ovary. The immunohistochemistry pattern was also confirmatory. After resection, patient was referred to the Cancer Institute for chemotherapy. Five months after diagnosis, her skin lesions were improved dramatically. She is continuing her treatment with her oncologist.

Discussion

The etiologies of erythroderma are extensive, but the majority of cases can be attributed to a pre-existing dermatitis, e.g. psoriasis, atopic dermatitis, or allergic contact dermatitis (1-3). However, the patient's history presented in this report does not indicate primary pre-existing dermatitis. The second most common diagnosis is idiopathic erythroderma, in which no cause will be found in spite of rigorous work-up (1-3). Erythroderma is frequently attributable to medications (1, 4). Approximately, 5% of erythroderma cases are shown to be a type of cutaneous T-cell lymphoma (e.g., the Sézary syndrome) (1, 3, 4). Erythroderma is rarely due to the hypereosinophilic syndrome or paraneoplastic syndromes (1, 2).

The primary diagnosis of drug eruption for this patient had been nearly ruled out in dermatology hospital because of lack of response to discontinuation of psychiatric drugs and administration of high-dose corticosteroids even after 3 months. In the initiation, the use of Indian henna as hair color and the pattern of skin lesions hinted at possible dermatitis due to henna which has been previously reported (5). However, pathologic findings and response to cancer treatment did not confirm it. Erythroderma is a rare symptom of some solid tumors such as liver, lung, prostate, thyroid, and colon (2). It is our opinion that this patient might be a rare presentation of paraneoplastic erythroderma. To the best of our knowledge, this is the first reported case of ovarian cancer presenting with erythroderma.

Conflict of Interests

Authors have no conflict of interests.

Acknowledgments

None.

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