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Case Report

Transition of Pemphigus Vulgaris to Pemphigus Foliaceus Due to Non-Drug Substances

Munise Daye[1], Sultan Cihan[1], Sıddıka Fındık[2], Koray Durmaz[1]

[1]Department of Dermatology Diseases, Necmettin Erbakan University Meram School of Medicine, Konya, Turkey

[2]Department of Pathology Diseases,Necmettin Erbakan University Meram School of Medicine, Konya, Turkey

ABSTRACT

Pemphigus is an auto-immune bullous disease which includes subgroups such as; Vulgaris, Foliaceus, and others. Pemphigus disease is characterized by bullous lesions and erosions of the skin and mucosae. The disease may develop due to the use of some drugs but sometimes it may flare up due to the misuse of some non-drug substances. We saw this in a 51-year-old patient who was advised by his charlatan friend to use a non-prescribed mixture which contained donkey milk, tar, puse, and tree root water. His pemphigus vulgaris disease showed the transition to foliaceus subtype accompanied by secondary erythroderma. When we scanned through literature, we noticed that this is the first case of pemphigus subtype conversion triggered by non-drug substances intake.

Keywords: Dermatitis, environment and public health, exfoliative, pemphigus

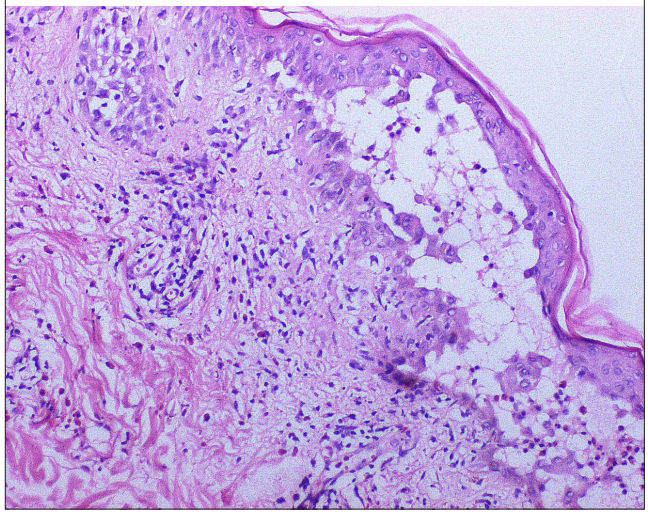
INTRODUCTION

Pemphigus includes a group of life-threatening bullous diseases of the skin and mucous membranes, characterized by flaccid bullae and erosions (1). The major subtypes of pemphigus are; pemphigus vulgaris (PV), pemphigus foliaceus (PF), pemphigus vegetans, and paraneoplastic (2). The transition from PV to PF has been reported in some few cases in literature (3). The use of alternative treatment methods by patients has become widespread today. Using oral and topical herbal supplements has increased recently (4, 5). Herein we reported the case of a patient who showed transition from PV to PF with characterized erythrodermic presentation as a results of the use of a mixture of donkey milk, tar, puse, and tree root water while he was being followed up with the diagnosis of PV.

CASE PRESENTATION

A 51-year-old male patient was examined due to erosion in bilateral pharyngeal arcus, bullae in the intermammary region and erosive plaques on the back. And the diagnosis of PV was made based on a histopathological examination (Figure 1) of the bulla on the dorsal region and direct immunofluorescent (DIF) examination of the perilesional area. We did not take a picture of the patient at that time because the clinical appearance and histopathological examination or DIF findings was typically consistent with PV. We started the patient on 80 mg methylprednisolone and 1440 mg mycophenolate mofetil, then the dose of methylprednisolone was gradually reduced in 2 years with regular monthly visits. The patient was followed up at the outpatient clinic. At the last state, he was in remission under treatment with 16 mg methylprednisolone and 1440 mg mycophenolate mofetil per day. He was clinically fine at that time and had no lesions or erosions.

Figure 1. Hematoxylin & eosin (x100) staining for identification suprabasal detachment



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Corresponding Author: Koray Durmaz **E-mail:** koraydurmaz06@gmail.com

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Figure 2. Crusted plaques and alopesic lesions were detected in the scalp, yellowish crusted plaques, erosions were detected in the whole body

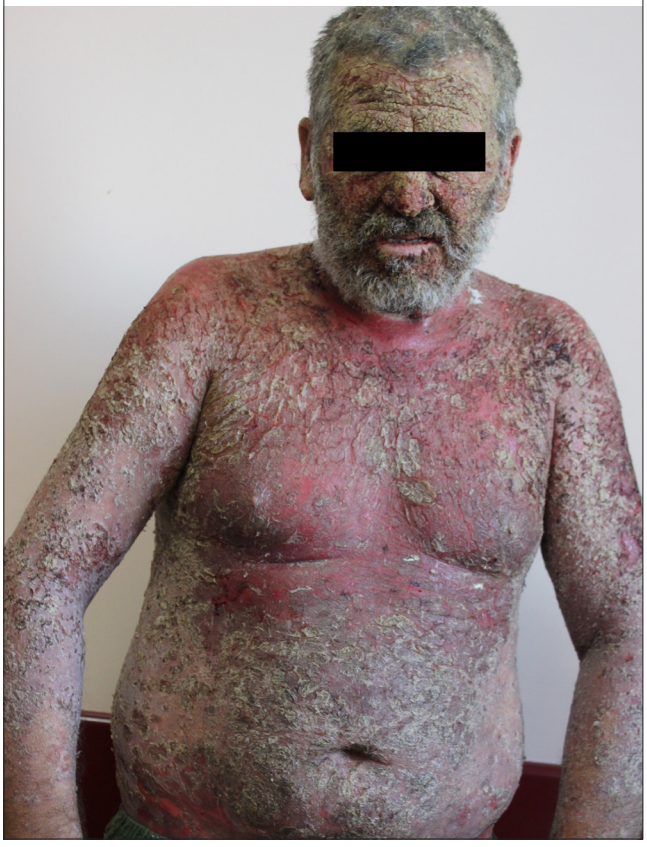
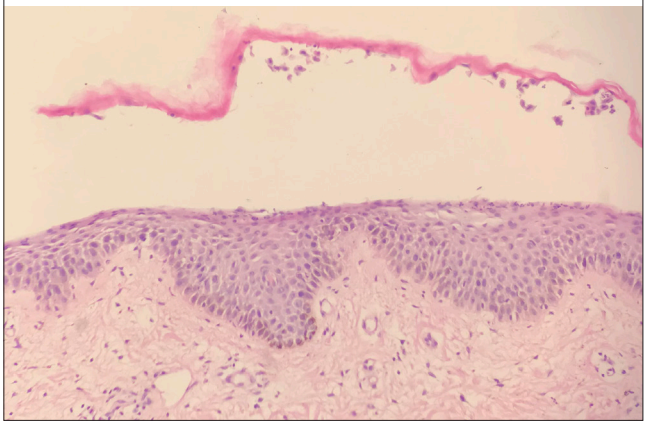


Figure 3. Hematoxylin & eosin (x200) staining for identification subcorneal detachment and inflammatory cells



Main Points:

- The transition between PV and PF is rare.
- Patients seeking alternative treatments may result in life-threatening outcomes.
- The use of alternative treatment methods when there are changes in dermatoses form or when exacerbation occurs should be inquired.

Figure 4. C3 and IgG accumulation in direct immunofluorescence (DIF) examination

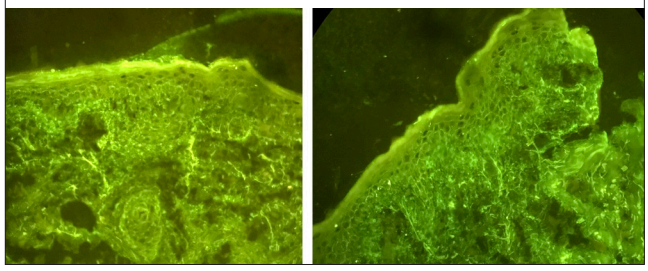
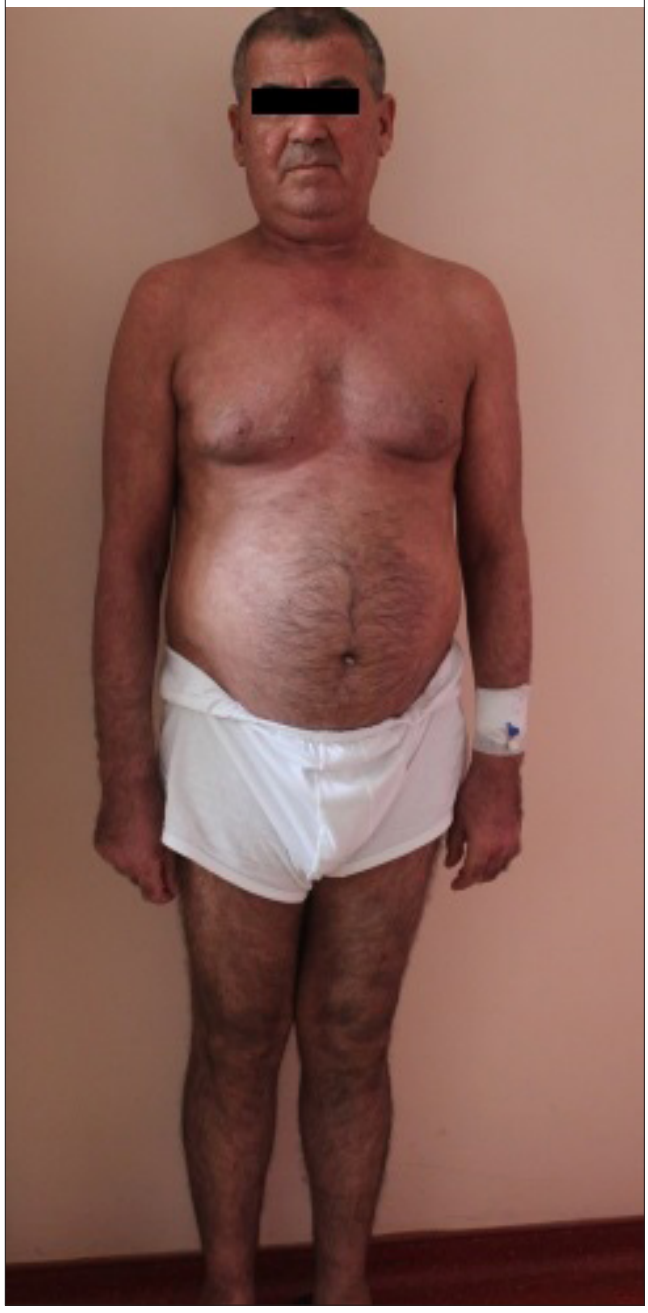


Figure 5. The patient's eruption completely regressed after the treatment



The patient did not come for follow up visits for 4 months. And he told us he had used his drugs regularly as we mentioned above during that time interval. And at the same time, he said he had drunk a mixture of donkey milk, tar, puse, and tree root water three times a day for the last three weeks and the rash occurred 2 weeks after starting the mixture. He confessed that the mixture was not prescribed and that he bought it from his friend. This charlatan friend had persuaded our patient that the mixture was going to relieve his symptoms and cure him. Then the patient was admitted in our clinic with fever, widespread rash, and watery lesions. He said he had stopped the mixture after the rash started. But in 2 weeks the rash had already spread and was accompanied with secondary infection which lead to his coming to the clinic. During dermatological examination, crusted plaques and alopecia lesions were detected on his scalp. Yellowish crusted plaque and erosions were seen on his whole body. Flaccid bullae were seen on the legs and edema was seen on his scrotum and the penis (Figure 2). Nikolsky's sign was positive. Oral and genital mucosa had a normal appearance. A bilateral purulent discharge was seen in his eyes but the ophthalmologist did not observe any eye defect. His laboratory test results were as follows: WBC: 19.300/uL, platelet count: 704.000/uL, glucose: 262 mg/dL, total protein: 6.1 g/fL, albumin 2.5 g/dL, AST: 48 U/L, CRP: 51.7 mg/L, and electrolyte levels normal. When we tested for auto-immune markers (ANA, RF, TMAb, TGAb, etc.), they were all negative. So, we did not think there was any other accompanying auto-immune disorder in the patient. A sample for biopsy was taken from the bullae on the right arm and DIF examination from the perilesional area was done. Histopathological examination revealed subcorneal detachment and intraepithelial IgG, and a C3 accumulation was seen in the DIF examination (Figures 3 and 4). And the patient was diagnosed with PF based on these findings. The patient was then started on Methylprednisolone 120 mg and mycophenolate mofetil 1440 mg per day at the same time. With this treatment, new bullae development did not occur, current lesions regressed, and methylprednisolone dose was gradually reduced. The patient was discharged and scheduled for outpatient clinic controls with 40 mg methylprednisolone and 1440 mg mycophenolate mofetil as the lesions completely regressed (Figure 5). An oral informed consent was got from the patient.

DISCUSSION

The transition between PV and PF is rare and the etiopathogenetic mechanism of this situation is not known. This transition is proposed to be as a result of secondary auto-immune response resulting from the exposure of the immunologically hidden protein following the primary auto-immune or inflammatory process which leads to tissue damage. This is defined as an epitope spread phenomenon. The transition from PF to PV following adrenal tumor and thymoma resection has been reported in literature (3).

The number of patients who have developed pemphigus after using herbal products is limited in literature. Dietary agents which are considered to trigger pemphigus include thiol compounds (garlic, leek, onion), phenols (black pepper, red pepper), tannins (tea, red wine, and spices), isothiocyanates (mustard, yogurt, cauliflower), and phytocyanins (spirulina paltenis alga). And the consumption of these substances are considered to trigger acantholysis (6-8). Donkey milk is a food supplement which contain proteins and angioedema was reported after its ingestion in one case (9). Information about each component of the mixture tar, puse, and tree root water is not available. The mechanism of action of these food supplements is not exactly known. Since the Nikolsky's sign was positive in our patient during clinical examination, we excluded a Toxic Epidermal Necrolysis (TEN). TEN or Lyell's syndrome is an acute dermatological emergency with significant morbidity and mortality. It characterized by bullous cutaneous lesions, exfoliations, erythematous maculae with a necrotic center, and serious mucosal erosions. Epidermal detachment on the body and mucosal involvement in two or more sites is observed. It is histopathologically characterized by full thickness necrosis (10). Subcorneal detachment is found in PF and it was important for differential diagnosis although accumulation in DIF is similar for both. Although this serious clinical manifestation is similar to TEN, we excluded TEN due to the lack of full thickness necrosis at histopathology and mild mucosal involvement in our patient. Clinical manifestations and histopathologic examination of our patient was consistent with erythrodermic PF.

Patients with dermatological diseases seek alternative treatments and this may result in life-threatening outcomes. We would like to underline that we had a limitation because we could not do the ELISA tests or IIF to detect antibodies due to the lack of the necessary devices. We did not have the opportunity to study the anti-Dg antibodies or IIF titre, because we did not have appropriate technical devices to do these tests. But in this case, we did the histopathological examination and DIF, and to the best of our knowledge the DIF test and histopathological findings are gold standards for the diagnosis of this disease, if the findings are consistent with clinical appearance.

CONCLUSION

When we scanned through literature, we noticed that this is the first case of pemphigus subtype conversion triggered by non-drug substances intake. We strongly advise that dermatologists should meticulously inquire the use of alternative treatment methods when there are changes in dermatoses form or when exacerbation occurs. The patients should also be informed not to use wrong alternative methods.

Informed Consent: Oral informed consent was obtained from patient who participated in this study.

Peer-review: Externally peer-reviewed.

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Conflict of Interest: Authors have no conflicts of interest to declare.

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