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CASE REPORT

PLATELET-RICH PLASMA AS A NOVEL TREATMENT FOR LICHEN SCLEROSUS VULVAE: A CASE REPORT

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Abstract

Introduction. Platelet-rich plasma (PRP) is a novel treatment of lichen sclerosus vulvae.
Case presentation. We describe a case of lichen sclerosus vulvae in a 25-year-old woman treated with PRP. The diagnosis was confirmed by the histological examination. The patient's symptoms were evaluated using Female Sexual Function Index (FSFI) questionnaire. PRP was prepared using Regen lab Cellular Matrix Kit and administered every two weeks, three times. The lesions disappeared at the visual examination.
Conclusions. Our case confirms the effectiveness of PRP treatment for lichen sclerosus vulvae reported by other case reports. Nevertheless, future randomized controlled studies are needed to evaluate the safety of PRP treatment and to establish effective clinical protocols for its use in lichen sclerosus vulvae.

Keywords: lichen sclerosus vulvae, platelet-rich plasma, dyspareunia.

Résumé

Le plasma riche en plaquettes en tant qu'un nouveau traitement du lichen scléro-atrophique vulvaire: rapport du cas

Introduction. Le plasma riche en plaquettes (PRP) est un nouveau traitement du lichen scléreux vulvaire.
Rapport du cas. Nous décrivons un cas de lichen scléreux vulvaire chez une femme de 25 ans traitée par PRP. Le diagnostic a été confirmé histologiquement. Les symptômes de la patiente ont été évalués à l'aide du questionnaire Female Sexual Function Index (FSFI). Le PRP a été préparé à l'aide du kit de matrice cellulaire Regenlab et administré toutes les 2 semaines en 3 procédures au total. Nous avons observé une disparition visuelle des lésions.
Conclusions. Notre cas confirme l'efficacité du traitement PRP pour le lichen scléreux vulvaire rapporté par de nombreux autres rapports de cas et séries. Néanmoins, de futures études contrôlées randomisées sont nécessaires pour évaluer l'innocuité du traitement PRP et pour établir des protocoles cliniques efficaces pour son utilisation dans le lichen scléreux vulvaire.

Mots-clés: lichen scléreux vulvaire, plasma riche en plaquettes, dyspareunie

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Introduction

Lichen sclerosus (LS) is a chronic autoimmune skin disorder predominantly affecting the genital area in women of all ages. Genital LS is most seen in postmenopausal women[1]. The prevalence of the disease is difficult to be evaluated since asymptomatic patients don't seek medical help or sometimes it is not recognized by the physicians because of its many other organ manifestations. However, in the general gynaecology practice the prevalence of vulvar LS has been estimated to be 1.7%[2].

The etiopathogenesis of the disease is still not well-known, an autoimmune mechanism is suggested because of the association of vulvar LS with other autoimmune disorders in women[3]. Furthermore, hormonal influences, chronic trauma and genetic factors are found to be related to the aetiology of LS[4].

Some patients with vulvar LS may remain asymptomatic, while other will experience vulvar pruritus and dyspareunia[5]. Sexual disfunction is related to the atrophy of the vulvar skin and progressive tissue scarring, which cause narrowing of the introitus, clitoral phimosis and pain during intercourse[6-8].

The diagnosis of vulvar LS is based on its typical appearance and biopsy is not recommended in every case. The classical histological findings, like hyperkeratosis of the epidermis, epidermal atrophy, homogenization of the collagen in the upper dermis, and an inflammatory infiltrate in the dermis confirm the diagnosis in case of uncertain or atypical features[9,10].

All available treatment modalities for LS are effective for symptoms relief, but don't have promising long-term results. Platelet-rich plasma (PRP) is a novel treatment for vulvar LS and is based on the high content of growth factors and release of cytokines. PRP promotes the healing process of the tissue by stimulating stem cells migration, differentiation, and proliferation. Due to the lack of randomized controlled studies, the effectiveness of PRP treatment for vulvar LS is not well investigated and this treatment can't be recommended as first-line therapy[11,12].

Case presentation

We report the case of a 25-year-old woman presenting in April 2021 in our clinic with complaints of severe pruritus, dyspareunia, and appearance of discoloration of the vulvar area for 6 months. The anamnesis was negative for family history of autoimmune disorders. The gynaecology examination of the patient revealed a white lesion of the vulva, involving the skin of both labia majora, labia minora and the clitoris (Fig.1). The speculum examination was painful for the patient. Our suspected diagnosis was vulvar LS and we suggested a biopsy from the lesion. The patient agreed and the histological examination confirmed the diagnosis.

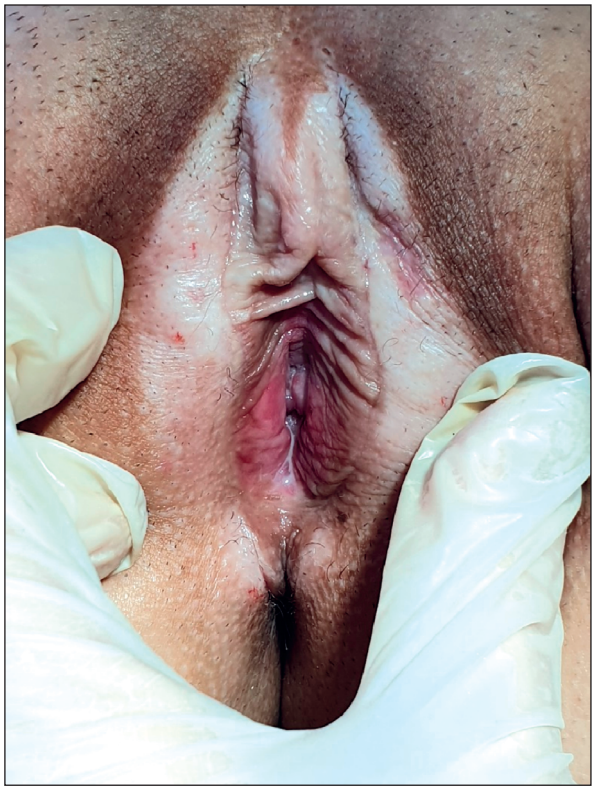


Fig. 1. Vulvar LS in a 25-year-old woman before treatment.

Based on our experience, we suggested experimental treatment with PRP. The patient signed a written informed consent, and we planned three sessions with intradermal PRP injections, two weeks apart. PRP was prepared from autologous blood using Regenlab Cellular Matrix Kit. Before the treatment, an anaesthetic gel was applied to affected area for 10 min. At every session 4 ml of PRP were injected intradermally with a 23 G needle into the lesion. Prior to and 6 months after the last procedure, the patient's symptoms were evaluated using Female Sexual Function Index (FSFI) questionnaire and pictures were obtained for better visualization of the results. The patient experienced improvement of symptoms a couple of weeks after the last procedure and during the 6 months check-up we also observed the visual disappearance of the lesions and further improvement of symptoms (Fig. 2 and Fig. 3).

In April 2022 the patient presented to our clinic for routine check-up and was very pleased with the results, which persisted. She had no symptoms of the disease and no exacerbation without any other treatment after the PRP (Fig. 4).



Fig. 2. Three weeks after the last procedure with PRP.



Fig. 3. Six months after the last procedure with PRP.

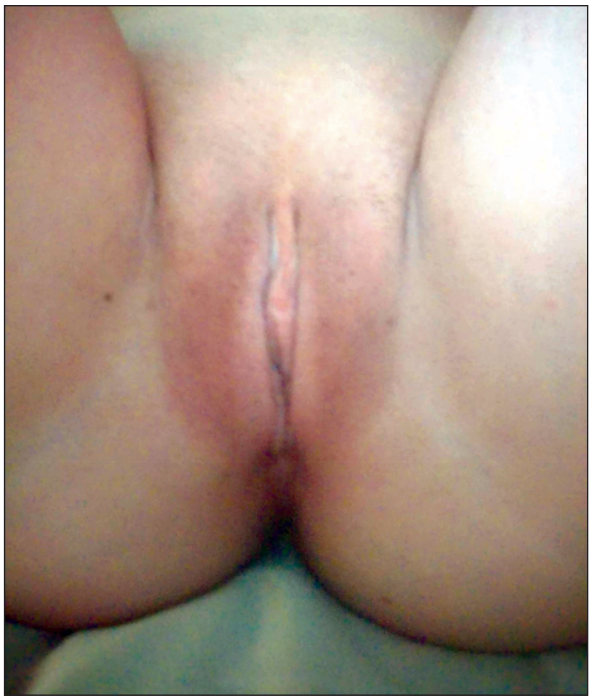


Fig. 4. One year after the last PRP procedure for LS vulvae.

Discussion

Our results with PRP for the treatment of vulvar LS are similar with other data from the literature. The only difference consists in different platelet separator systems used by investigators and the different protocols for PRP procedures[13]. Our protocol includes three procedures with PRP every two weeks apart, while others apply PRP in a different manner[11,12].

Vulvar LS severely affects women's sexual life and self-confidence, especially the young age group. Thus, it should be more effectively treated than with the standard corticosteroid therapy, which shows no reliable long-term results but numerous side effects, like atrophy and thereafter thinning of the skin. On the contrary, PRP provides restoration of the upper dermis and skin texture. PRP has beneficial long-lasting effects in the management of vulvar LS and therefore it should be further investigated in randomized controlled trials as a first-line therapy.

Conclusions

This case demonstrates the satisfying results in the management of vulvar LS using PRP as a first line and single treatment. This novel therapeutic management of vulvar LS has no side effects and no contraindications. PRP for the treatment of vulvar LS, especially in young women, has many advantages compared to the standard well-known use of local corticosteroids. PRP is a novel promising treatment

of vulvar LS and therefore needs to be evaluated in randomized controlled trials, to be included in the evidence-based guidelines for the management of this disorder in women.

Author Contributions:

N.T. was responsible for the diagnostic procedures, clinical diagnosis, and treatment decisions. N.T. wrote the manuscript. The author has read and agreed to the published version of the manuscript.

Compliance with Ethics Requirements:

„The author has no conflict of interest relevant to this article „

„The author declares that all the procedures and experiments of this study respect the ethical standards in the Helsinki Declaration of 1975, as revised in 2008, as well as the national law. Informed consent was obtained from the patient included in the study „

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