

Vulvar Lichen Sclerosus Treated with Platelet Rich Plasma: A New Therapeutic Option

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Citation: Calvisi L, Manzoni V, Sito G (2019) Vulvar Lichen Sclerosus Treated with Platelet Rich Plasma: A New Therapeutic Option. J Plast Aesthet Surg 1: 001. JPAS-001.000001

Abstract

Lichen sclerosus is a chronic condition that can be a debilitating disease, causing pruritus and pain, and it carries the potential for atrophy, scarring, and significant functional impairment. Usually it responds to topical steroids, but sometimes this treatment is ineffective.

Aim of this clinical research is to introduce a new therapeutic method to treat the Vulvar Lichen Sclerosus (VLS) with Platelet Rich Plasma with a resolution of the symptoms.

Keywords

Vulvar Lichen Sclerosus; Platelet rich Plasma; Lichen sclerosus; Genital area; Lichen Sclerosus et Atrophicus

Introduction

Lichen sclerosus is a chronic, inflammatory, lymphocyte-mediated disease that usually involves the mucosae (oral mucosae and anogenital area). It is characterized by ivory-white plaques, “cigarette paper” such as epidermal atrophy.

Vulvar Lichen Sclerosus (VLS) has two peak ages of presentation, prepubescent girls and postmenopausal women (mean age of onset is in the fifth or sixth decade), but it is most commonly present in peri- or post-menopausal women [1].

Women complain of intractable pruritus (worse at night), irritation, soreness, dyspareunia, dysuria, and urinary or faecal incontinence. Nine percent of cases may be asymptomatic. (VLS) may remain unknown for years, affecting the quality of life [1-3]. In the late stage it is also associated with an increase of the risk of vulvar squamous cell carcinoma. The diagnosis is made clinically, in most cases, and early treatment may reduce or prevent the risk of scarring.

Local hygiene measures and use of emollients is essential. Currently ultra-potent topical corticosteroids are the medical treatment of choice. The therapeutic response is often unsatisfactory and therapeutic alternatives are needed. The following measures have been tried: ospemifene, topical calcineurin inhibitors, UVA1 phototherapy, topical tretinoin, oral acitretin, oral cyclosporine, cryotherapy, CO₂ laser, ultrasonic therapy and surgery. No clinical benefit has been proven with topical administration of progesterone and testosterone [4-8].

Material and Methods

A total twenty cases of Vulvar lichen Sclerosus not responsive to the traditional therapy were enrolled.

Age of participants ranged from 50 to 65 years old (mean age 55,2). VLS duration ranged from 2 to 5 years, and all the patients were no responsive to the traditional therapy Table 1.

Patient	Therapy
1	Topical corticosteroids,
2	Topical corticosteroids
3	Topical corticosteroids, topical calcineurin inhibitors
4	Topical corticosteroids
5	Topical corticosteroids, oral cyclosporine
6	Topical corticosteroids
7	Topical corticosteroids
8	Topical corticosteroids, , topical calcineurin inhibitors
9	Topical corticosteroids
10	Topical corticosteroids
11	Topical corticosteroids
12	Topical corticosteroids, , topical calcineurin inhibitors
13	Topical corticosteroids
14	Topical corticosteroids, , oral cyclosporine
15	Topical corticosteroids
16	Topical corticosteroids, , topical calcineurin inhibitors
17	Topical corticosteroids
18	Topical corticosteroids, , oral cyclosporine
19	Topical corticosteroids
20	Topical corticosteroids

Table 1: Information of patients of previous treatment

To evaluate the diagnosis and the progression the symptoms were used the clinical examination and the dermatoscopy.

The lesions were localized in the anterior and posterior part of the introitus with ulcerative lesions and initial introitus stenosis.

All the patients complained about intractable pruritus (worse at night), irritation, soreness, dyspareunia, dysuria Figure 1. The patient received three different treatments of Platelet Rich Plasma (PRP), separated by 4 weeks, with a resolution of the symptoms.



Figure 1: Before

Treatment and Progress

We decided to treat the patient with Platelet Rich Plasma (PRP) in order to improve the local symptomatology and to allow the healing of the wound. The effectiveness of PRP is based on its high level of growth factors such as PDGF, TGF-beta, and EGF. These growth factors are important in modulating mesenchymal cell proliferation, and extracellular matrix synthesis during healing. The vast majority of published literature shows that autologous PRP has minimal risk formation or Serious Adverse Events (SAEs).

According to Goldstein et al. we have been decided to treat the patients with PRP, because PRP has shown to be effective at reducing ulcers in a lot of medical conditions such as diabetic foot ulcers, venous stasis ulcers, and tendinopathy [9,10].

On examination all the patients presented ulcerative erosions of the anterior and posterior part of the introitus, initial introital stenosis, with intractable pruritus (worse at night), irritation, soreness, dyspareunia, dysuria.

The patients have been previously treated with local corticosteroids with no reductions of the sintomatology.

We administered three treatments [3], the first two at fifteen day intervals and the last one thirty days after the second treatment. We noticed a great improvement in the mucosae since the first treatment, with a reduction of the erythema. Erosions and symptoms were still present.

After the third treatment there were no more erosions, atrophía of the mucosae was reduced and the symptoms that had been presented had disappeared Figure 2.



Figure 2: After.

Discussion:

This cases illustrate the possibility to treat VLS with PRP.

PRP is a solution derived from whole blood that is enriched in the platelet fraction. Platelets serve as a reservoir of growth factors and cytokines and, when applied to wound beds, promote healing of complex wounds.

In brief, we collected 9 ml of blood in a tube and we added 1 ml of sodium citrate (10 ml in total). The collected blood was centrifuged at first, for 5 minutes at 1200 RCF, at environmental temperature (22°C). Then, a red lower fraction (red cell component) and an upper straw-yellow turbid fraction (serum component) were observed.

After that we centrifuged for a second time for 10 minutes at 1200 RCF.

We obtained 3 ml of serum component that was injected with 1 ml syringes in the mucosae of the vagina and the in the skin of the vulva.

Platelet-rich plasma stimulates angiogenesis, promoting vascular in-growth and fibroblast proliferation.

In our cases, VLS responded to the treatment with PRP. We believe that the administration of PRP should be considered in patients with no-responsive VLS, however, further studies are needed to demonstrate the validity of the method.

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