Implications of vulvar lichen sclerosus in post-menopausal women

Mircea Tampa[1], Clara Matei[1], Alexandra Limbau[2], Simona Roxana Georgescu[1]

1. Department of Dermatology, "Carol Davila" University of Medicine and Pharmacy, Bucharest (Romania)
2. Department of Dermatology, "Victor Babes" Hospital, Bucharest (Romania)

Correspondence: Clara Matei MD, PhD
e-mail: matei_clara@yahoo.com

Acknowledgements: This paper is partly supported by the Sectorial Operational Programme Human Resources Development (SOPHRD), financed by the European Social Fund and the Romanian Government under the contract number POSDRU 141531.

Abstract

Vulvar lichen sclerosus (VLS) is a muco-cutaneous condition that occurs often in women at post-menopausal age, affecting preferentially the genital, labial and perianal areas. VLS has a typical pattern, being characterized by intensive pruritus. VLS patients have an extremely high risk of itchting, scarring of external genitalia and development of squamous cell carcinoma in the affected areas. Topical calcineurin inhibitors (e.g. pimecrolimus) may be a safe and effective alternative treatment, being able to circumvent the risk of steroid-induced vulvar atrophy. The histopathological aspect is specific leading to basal cell degeneration, and chronic inflammatory infiltrate. Treatment of VLS usually is long-term follow-up and is based on local potent corticosteroids in contrast with surgical treatment which is rarely indicated. Considering the risks and complications of both the disease and its treatment, a multidisciplinary approach in monitoring the condition should be taken into account.
Keywords: *vulvar, lichen sclerosis, genital, squamos cell carcinoma, ageing*

Introduction

Vulvar lichen sclerosus (VLS) is an inflammatory skin disorder of unknown origin, with a strong impact on overall genital functioning of female patients (including urinary and sexual dysfunction), often associated with autoimmune diseases, which could be easily influenced by genes and hormones. Approximately 10% of women with VLS will also have other skin affected areas, and up to 20% may have another autoimmune disease, such as thyroid dysfunction[1,2].

The most common symptom of VLS appears at post-menopausal age and is described as severe paroxistical itching. In this case, the patients should refer to a specialist, which could be a dermatologist or gynecologist to confirm the exact diagnosis, especially to differentiate the condition from other ailemnts that could affect the vulvar area. The disease is very rarely curable, and a good long-term management should be implemented. The association of the diseases was made with vulvar intraepithelial neoplasia but also with invasive squamos cell carcinoma. In this case, the vulvar skin and mucous areas should be evaluated almost every year in parallel with the education which should be implemented before the treatment initiative[3]. The true prevalence of VLS is still difficult to determine it, and could be most of the time difficult to diagnose. Current estimations stipulate that between 1 in 1000 post-menopausal women are affected by VLS[4].

Etiology

The exact etiology of the condition is still subject to debate; a wide variety of theories have tried to explain the mechanism of the disease[1]. An increased incidence of autoimmune conditions has been found in association with VLS, including thyroid disease, pernicious anaemia, diabetes mellitus, alopecia areata, or vitiligo. Several factors are credited to contribute to the risk of VLS occurence, such as various autoimmune conditions, genetic factors, infections, local factors, and last but not least the hormonal status[5,6]. Some studies have showed that about 74% of post-menopausal women with VLS have a positive status of immunoglobulin autoantibodies[4,7]. Among these, based on first-degree relatives, there was supposed that the genetic component is involved[5], and about 12% had a family history of the disease[7]. The hormonal status was evaluated by the lower endogenous estrogen levels which were positively correlated with the development of VLS[8]. To note, the age of the female patients with VLS is also an important factor, as vulvovaginal symptoms of VLS occur in up to 46% of menopausal and perimenopausal women[8].

Symptoms and Vulvar Biopsy

Some patients with VLS may experience many aggressive symptoms, but others could remain asymptomatic for long periods of time. The major cause for these symptoms is usually vulvar pruritus and vulvar fissures which are the conditions which cause skin changes, occurring through scratching[6,7]. This could often result in local bleeding, infections, dysuria, dyspareunia, pain with defecation, and rectal bleeding[9].

For the confirmation of the diagnosis, the biopsy represents the first line assessment. When extra-genital LS is present, the biopsy is mandatory and should be taken before the initiation of the treatment, especially with topical corticosteroids, knowing the fact that these medications could interfere with the results of biopsy[10,11].

Malignant Vulvar Skin Lesions

In the post-menopausal women, the vulvar area could evolve to malignancy which could be diagnosed prior to menopause[12]. Therefore, establishing the diagnosis of invasive carcinoma of the vulva involves biopsy, and must be followed subsequently by specific treatment. Most of the vulvar cancers are squamous cell carcinomas, but also other different types of malignant lesion stages may occur

Received: *May 21, 2014*
Revised: *July 17, 2014*
Accepted: *August 12, 2014*

including melanoma, basal cell carcinoma, sarcoma and adenocarcinoma of the Bartholin gland[13]. Compared to benign stages, malignant lesions are usually asymmetrical, involving multifocal plaques. When malignant lesions occur in other part of the body, this can be distinguished by the vulvar area, which can have usually an irregular shape and distribution. Many of the vulvar cancers start in mucosal sites rather than in other cutaneous areas[14] although many patients present malignant lesions of the vulva without any obvious mass. Symptoms of vulvar cancer vary with the extent and the specific type of cancer involved. In contrast, women with symptomatic vulvar invasive cancers may present with itch, ulceration or bleeding[15].

Interestingly, suspicious lesions will require a specialist examination, including biopsy and searching for human pappiloma virus (HPV), which will further require a differential diagnosis based on the risk factors like smoking, lichen sclerosus, lichen planus, previous HPV infection and positive human immunodeficiency virus status. Furthermore, vaginal or anal intraepithelial neoplasia of the vagina and anus are less common than vulvar malignancy[16].

Differential Diagnosis

The differential diagnosis for VLS includes both cicatricial pemphigoid and lichen planus. However, these are distinct conditions that can be differentiated by their clinical features[15]. Cicatricial pemphigoid presenting only on the vulva could lead to confusion, in contrast with lichen planus which shares clinical and pathological features with VLS. Some studies have suggested that VLS and lichen planus form a spectrum of a single disease and extragenital LS needs to be distinguished from discoid lupus erythematosus morphea and atrophic lichen planus[17].

Therapy of VLS

The recommended treatment for VLS is the topical application of corticosteroid ointment, especially clobetasol propionate[18,19,20], based on the anti-inflammatory properties of topical steroid treatment, which prevent further progression of the disease. The treatment should have a properly effect, taking into account that the mucous membranes of the vulva are relatively steroid resistant[8]. Sometimes the recommendation for second-line therapy involves calcineurin inhibitors. Although calcineurin inhibitors can provide positive effect, topical clobetasol showed to be superior to pimecrolimus in improving overall appearance of the affected areas[19].

Pimecrolimus has been widely used, bearing the advantage that is causes no supplementary dermal itching; however, pimecrolimus treatment could be associated with other local diseases[19]. Therefore, calcineurin inhibitors should be prescribed under the supervision of a specialist who can monitor the appearance of malignancy[8]. Surgery use only for the removal of vulvar tissue affected by uncomplicated VLS should be employed with parcimony, as this intervention does not cure the main condition[17,20]. Usually surgery is to be employed in severe cases of VLS with consitituted malignancy or severe adhesions which can interfere with urinary function[21]. After the surgery, dilators are often used to reduce the recurrence of introitus narrowing. Moreover, an oncologic gynecologist is the most appropriate specialist for surgical management of omplicated VLS, in case of malignancy, extensive scarring or occurrence of wide adhesions[22].

Conclusions

The health of women at post-menopausal age is a topic of growing concern in modern society; however, many vulvar conditions remain overlooked and, subsequently, undertreated. VLS represents a condition which could have implications in many areas like gynecology, dermatology and urology. Therefore, long-term follow-up and management will require the engagement of many fields of both medical care and research, which can further offer high quality services for VLS patients. ■

References

1. Haefner HK, Aldrich NZ, Dalton VK, Gagné HM, Marcus SB, Patel DA, Berger MB. The impact of vulvar lichen sclerosus on sexual dysfunction. J Womens Health (Larchmt) 2014, 23, 9, 765-70.
2. Poskitt L, Wojnarowska F. Lichen sclerosus as a cutaneous manifestation of thyroid disease. J Am Acad Dermatol 1993, 28, 665.
3. Parish S., Nappi R., Krychman M. et al. Impact of vulvovaginal health on postmenopausal women: a review of surveys on symptoms of vulvovaginal atrophy, Int J Women Health 2013, 5, 437-47.
4. Chi CC, Kirtschig G, Baldo M, Lewis F, Wang SH, Wojnarowska F. Systematic review and meta-analysis of randomized controlled trials on topical interventions for genital lichen sclerosus. J Am Acad Dermatol 2012, 67, 2, 305-12.
5. Higgins CA, Cruickshank ME. A population-based case-control study of aetiological factors associated with vulval lichen sclerosus. J Obstet Gynaecol 2012, 32, 3, 271-5.
6. Bourne C, Minichiello V. Older people are at risk of sexually transmitted infections, Australas J Ageing 2009, 28, 32-6.
7. Thorstensen KA, Birenbaum DL. Recognition and management of vulvar dermatologic conditions: lichen sclerosus, lichen planus, and lichen simplex chronicus. J Midwifery Womens Health 2012, 57, 3, 260-75.
8. Kinghston A. Vulval disease in the postmenopausal patient: a guide to current management, Menopause Int 2010, 16, 117-20.
9. Gurumurthy M, Morah N, Gioffre G, Cruickshank ME. The surgical management of complications of vulval lichen sclerosus. Eur J Obstet Gynecol Reprod Biol. 2012, 162, 1, 79-82.
10. Edwards QT, Saunders-Goldson S. Lichen sclerosus of the vulva in women: Assessment, diagnosis, and management for the nurse practitioner. J Am Acad Nurse Pract 2003,15, 3,115-9.
11. Whimster IW. The natural history of endogenous skin malignancy as a basis for experimental research. Trans St Johns Hosp Dermatol Soc 1973, 59, 195-224.
12. Leibowitch M, Neill S, Pelisse M, Moyal-Baracco M. The epithelial changes associated with squamous cell carcinoma of the vulva; a review of the clinical, histological and virological findings in 78 women. Br J Obstet Gynaecol 1990, 97, 1135-9.
13. Zaino RJ, Husseinzadeh N, Nahhas W, Mortel R. Epithelial alterations in proximity to invasive squamous carcinoma of the vulva. Int J Gynecol Pathol 1982, 1,173-84.
14. Kamarashev JA, Vassileva SG. Dermatological diseases of the vulva. Clin Dermatol 1997,15, 53-65.
15. Goldstein AT, Marinoff SC, Christopher K, Srodon M., Prevalence of vulvar lichen sclerosus in a general gynecology practice, J Reprod Med 2005, 50, 7, 477-80.
16. von Krogh G, Dahlman-Ghozlan K, Syrjanen S. Potential human papilloma virus reactivation following topical corticosteroid therapy of genital lichen sclerosus and erosive lichen planus. J Eur Acad Dermatol Venereol 2002, 16, 130-3.
17. Saunders NA, Haefner HK. Vulvar lichen sclerosus in the elderly: pathophysiology and treatment update, Drugs Aging 2009, 26, 10, 803-12.
18. Panay N, Maamari R. Treatment of postmenopausal vaginal atrophy with 10-µg estradiol vaginal tablets, Menopause Int 2012, 18, 1, 15-9.
19. Goldstein AT, Creasey A, Pfau R, Phillips D, Burrows LJ. A double-blind, randomized controlled trial of clobetasol versus pimecrolimus in patients with vulvar lichen sclerosus. J Am Acad Dermatol 2011, 64, 6, e99-e104.
20. Bradford J, Fischer G. Long-term management of vulval lichen sclerosus in adult women. Aust N Z J Obstet Gynaecol. 2010, 50, 2, 148-52.
21. Simon JA, Maamari RV, Ultra-low-dose vaginal estrogen tablets for the treatment of postmenopausal vaginal atrophy, Climateric 2013, 16 (Suppl 1), 37-43.
22. Abramov Y, Elchalal U, Abramov D, Goldfarb A, Schenker JG. Surgical treatment of vulvar lichen sclerosus: a review. Obstet Gynecol Surv 1996, 51, 193–9.