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Rates of Self-Reported Urinary, Gastrointestinal and Pain Comorbidities in Women with Vulvar Lichen Sclerosus

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Abstract

Objective—To determine the prevalences of comorbid disorders in women with vulvar lichen sclerosis.

Materials and Methods—A retrospective review of self-administered questionnaires regarding the health history of 308 women with lichen sclerosis seen at a vulvar clinic between 2006–2011 was performed. Responses to questions about urinary [overactive bladder (OAB), urinary incontinence (UI), stress urinary incontinence (SUI)], gastrointestinal [inflammatory bowel diseases (IBD), constipation, irritable bowel syndrome (IBS)], thyroid dysfunction, and pain [interstitial cystitis (IC), fibromyalgia, temporomandibular joint disorder (TMJ) and vulvar pain] disorders were collected. The percentage of subjects self-reporting each comorbidity was compared to the published prevalence in the general population using a single-value binomial test.

Results—Subject demographics [data presented as median (minimum, maximum) or percentage]: Age 56.4 years (20.0, 92.5), BMI 27.5 kg/m² (17.4, 53.1), Parity 2 (0, 10), Caucasian 92.9%, Biopsy proven 65.6%. Prevalences of self-reported comorbidities in our subjects are: OAB 15.3%, UI 38.6%, SUI 27.9%, IBD 1.9%, Constipation 32.5%, IBS 19.5%, Thyroid dysfunction 33.1%, IC 2.6%, Fibromyalgia 9.1%, TMJ 13.0%, Vulvar pain 83.1%. The prevalence of each disorder is significantly different than that in the general population, with all p values < 0.02.

Conclusions—Vulvar lichen sclerosis is associated with numerous bladder, bowel, and pain comorbidities. The prevalences of all of these disorders are higher in our subjects than the general population except OAB, which we find at approximately 1/3 that of the general population. Patients with lichen sclerosis should be screened for comorbidities that may affect their health and/or quality of life.

Keywords

Lichen Sclerosis; Urinary Bladder; Overactive; Gastrointestinal Diseases; Pain; Hypothyroidism

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INTRODUCTION

Lichen sclerosus (LS) is a chronic disease of probable autoimmune origin that manifests as an inflammatory dermatitis (1). The exact prevalence of LS is unknown, but the disease is identified more frequently in woman than men (2). Although it can affect women of any age, LS occurs most frequently in postmenopausal women. It has been suggested that in elderly, nursing-home residents, the prevalence is as high as 1 in 30 women (3).

The vast majority of women with LS have cutaneous manifestations in the anogenital/vulvar region. However, patients with LS may have symptoms unrelated to vulvar skin, including constipation or painful defecation (4). There are currently few studies examining the frequency with which women with LS complain of these comorbid conditions (5–7). We therefore sought to determine the self-reported prevalences of several urinary, gastrointestinal and pain syndromes in women with vulvar LS.

METHODS

This is an institutional review board-approved (University of Michigan IRBMED # HUM00047402) retrospective chart review of women treated for LS at the University of Michigan Center for Vulvar Diseases between 2006 to 2011. The diagnosis of lichen sclerosus was based on symptoms and clinical examination, but biopsy results were recorded if available.

Patients presenting to the University of Michigan Center for Vulvar Diseases self-completed a uniform intake-questionnaire, including information about demographics and medical history. All patients aged 18 years and older treated for vulvar lichen sclerosus during this time period for whom completed questionnaires were available were included in this study. Patients with a concomitant diagnosis of lichen planus were excluded.

Responses to questions about specific comorbidities were extracted in order to estimate prevalences for each condition. Self-reported diagnoses were obtained from the medical history portion of the questionnaire for the following comorbidities: overactive bladder (OAB), urinary incontinence (UI), stress urinary incontinence (SUI), inflammatory bowel diseases (IBD), chronic constipation, irritable bowel syndrome (IBS), thyroid disease, interstitial cystitis (IC), fibromyalgia and temporomandibular joint pain syndrome (TMJ). For each of these disorders, the subjects were provided a list of multiple medical problems, including these comorbidities, and were asked to check a box corresponding to the disorders for which they had symptoms or had been given diagnoses. For IBD, both ulcerative colitis and Crohn's disease were listed. Stress urinary incontinence was not listed as a diagnosis, but rather, loss of urine with sneezing. A subject was given a diagnosis of urinary incontinence (UI) if she self-identified as having SUI or if she checked a box corresponding to "Urine leaking" in the review of symptoms section of the questionnaire. We defined thyroid dysfunction through a composite variable, considered positive if a subject self-reported thyroid disease, there were documented abnormal thyroid function tests in the medical record, or the patient was taking thyroid medication. A diagnosis of vulvar pain was also reached through a composite variable, considered positive if any of the following were true: the subject answered "Yes" to a question "Do you have vulvar pain," she identified the intensity and/or unpleasantness of her pain as more than 0 (none) on a visual analog scale corresponding to vulvar pain, or she indicated vulvar pain (other than itching) on the McGill Pain Questionnaire (8).

The prevalence of each disorder in our population of subjects was calculated as the percentage of women with vulvar LS self-reporting a diagnosis of the comorbidity.

Prevalences of the same disorders in the general population were obtained from published literature (9–27). The non-parametric binomial test was used to test for a statistically-significant difference between the calculated prevalence of each comorbidity in women with vulvar LS and the prevalence in the general population. A p value less than 0.05 was selected to denote statistical significance. All analyses were performed using PASW version 18.0 (SPSS, Inc., Chicago, IL, USA).

RESULTS

Completed intake questionnaires were available for 308 women. The median age of the study population was 54.6 years, ranging from 20–92.5 years. The median parity was 2.0 with a range of 0–10. The median body mass index of our study population was 27.5 kg/m², with a range of 17.4–53.1 kg/m². 92.9% of the subjects were Caucasian. 65.6% (n = 202) of the subjects had a biopsy with the result consistent with lichen sclerosus. 13.3% (n = 41) had no documentation of a biopsy being performed. The remaining 21.1% (n = 65) had biopsies performed with a pathology report other than lichen sclerosus. These subjects were included in this analysis as their symptoms and clinical features were consistent with a diagnosis of LS.

It has been well-documented that the prevalence of thyroid disease is elevated in women with LS, with approximately 20–30% of these patients having thyroid dysfunction (28, 29). We therefore examined the rate of thyroid disease in our subjects. We found that 33.1% (n = 102) of the women in our study with LS had thyroid dysfunction.

We next examined lower urinary tract disorders, including overactive bladder, urinary incontinence and stress urinary incontinence (Table 1). The prevalence of UI and SUI are both significantly higher than would be expected from the general population, whereas OAB is reported at slightly below 40% the prevalence in the general population.

The prevalences of several gastrointestinal disorders, including inflammatory bowel diseases, chronic constipation, and irritable bowel syndrome, were assessed (Table 1). All three of these disorders were self-reported at higher rates than are documented for the general population.

Finally, we measured the prevalences of vulvar pain, interstitial cystitis, fibromyalgia, and temporomandibular joint pain syndrome (Table 1). The self-reported prevalences of all of these disorders are significantly elevated when compared to the rates published for the general population.

DISCUSSION

The results of this study suggest that women with vulvar lichen sclerosus presenting to our tertiary referral vulvar care clinic suffer from a large number of comorbidities. Our findings are generally higher than the published rates for the same conditions in the general population. The only comorbidity for which the prevalence in women with LS is lower is overactive bladder, which we find at approximately 1/3 of the prevalence in the general population.

The rate of thyroid dysfunction in our patients is also higher than would be expected in the population. Similar to the results of Birenbaum and Young (28), thyroid dysfunction was identified in approximately 30% of our subjects, which is 5-fold greater than the reported rates for the general population (30). These findings are consistent with previously published works suggesting that women with vulvar lichen sclerosus are at increased risk of having

coexistent autoimmune disorders, including thyroid disease, psoriasis, alopecia areata and vitiligo (28, 29, 31).

Kennedy and colleagues have also identified high rates of urinary, gastrointestinal and pain disorders in women with vulvar diseases (6, 32). Similar to our results, these previously published studies found women with LS to be at elevated risk of painful bladder syndrome and IBS. However, in contrast to our findings, Kennedy et al. suggest that urinary incontinence is less common in women with LS than women presenting to a general gynecology clinic for annual examinations (6). The reasons for this discrepancy are not clear, but may stem from differences in patient populations, study sizes, and/or the method by which urinary incontinence was diagnosed.

There are several limitations to this study that we must acknowledge. Firstly, all of these subjects were identified from a tertiary referral vulvar care clinic. As such, the results of this study may not extend to all patient populations, but may rather reflect a selection bias. Similarly, since the patients referred to the University of Michigan Center for Vulvar Diseases are often those that have proven difficult to diagnose and/or treat, they may represent a cohort of patients with more severe forms of vulvar diseases. The results from this population may therefore not be representative of the bulk of women with vulvar LS. Furthermore, the predominantly Caucasian cohort in this study, while reflective of the patient population at the University of Michigan, may limit the generalizability of our results to other racial and/or ethnic groups. In addition, this is a cross-sectional study, so we cannot determine causality or temporal associations between the comorbidities evaluated and lichen sclerosus. With the exception of thyroid dysfunction, we relied on self-report to calculate prevalences of all comorbidities. Furthermore, validated, published screening instruments were not used in this process. As such, our data may reflect elements of recall bias and/or lack of reliability (33). We did not adjust our analysis to reflect the fact that we made multiple comparisons between our LS subjects and the general population, such as a Bonferroni adjustment. As such, there may be a statistical bias resulting in identification of associations simply due to the number of tests performed, rather than to a true rejection of the null hypothesis. It should be noted, however, that a back of the envelope Bonferroni adjustment would suggest that we use a p value of 0.005, rather than 0.05, to ascribe statistical significance as we tested for 10 different conditions. The p values calculated for the all of the prevalences in our study were less than 0.001, with the exception of urinary incontinence ($p = 0.02$), IBD ($p = 0.01$) and IBS ($p = 0.02$). Finally, all of the prevalences calculated for comorbidities in our subjects with LS were compared to published rates for the general population. However, the published prevalences of all of the comorbidities examined in this study cover wide ranges, depending on the definition of the diagnosis and the population studied. For example, although we note that the overall rate of OAB in the general population to be 40%, several studies suggests the prevalence is closer to 16% (34, 35). The results of comparisons between women with LS and the general population are therefore highly dependent on information about disease states in the community. Future investigations exploring the relative associations between vulvar lichen sclerosus and other comorbidities are necessary. The findings from this report may serve as benchmark data for such studies.

Strengths of this study include its large sample size, the use of a standardized questionnaire for all subjects, and the broad range and large number of comorbidities investigated.

CONCLUSIONS

Women with vulvar lichen sclerosus report numerous bladder, bowel and pain comorbidities. Further study of these comorbidities with standardized screening instruments

in the LS population is needed. Additionally, practitioners should be cognizant of these associated disorders and consider screening in patients with lichen sclerosis.

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Table 1

Prevalences of Comorbidities in Women with Vulvar Lichen Sclerosus and in the General Population

Comorbidity	Prevalence in Women with LS	Prevalence in the General Population	p value
<i>Urinary Disorders</i>			
Overactive Bladder	15.3% (47)	40%	< 0.001
Urinary Incontinence	38.6% (119)	33%	0.02
Stress Urinary Incontinence	27.9% (86)	13%	< 0.001
<i>Gastrointestinal Disorders</i>			
Inflammatory Bowel Diseases	1.9% (6)	0.5%	0.01
Chronic Constipation	32.5% (100)	20%	< 0.001
Irritable Bowel Syndrome	19.5% (60)	15%	0.02
<i>Pain Syndromes</i>			
Vulvar Pain	83.1% (226/272)	9%	< 0.001
Interstitial Cystitis	2.6% (8)	0.2%	< 0.001
Fibromyalgia	9.1% (28)	3%	< 0.001
Temporomandibular Joint Pain	13.0% (40/307)	7%	< 0.001

Data are presented as percentage (number of subjects). Denominators are included to account when there are missing data. p values test the null hypothesis that the prevalence of each disorder in women with LS is the same as in the general population.