



## Desquamative Inflammatory Vaginitis and Other Persistent Vaginitis: A Case Report

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### Abstract

A 75% of women will have at least one episode of vaginitis, which can become persistent in more than a half of them. Its symptoms are disturbing and carry a psychological charge for patients. Although it is frequently caused by bacterial vaginosis, vaginal candidiasis or trichomoniasis, there is other aetiology that must be taken into account, as noninfectious vaginitis and atrophic vaginitis. Desquamative inflammatory vaginitis is a disease of unknown origin that appears associated to intense vaginal erythema and yellow thick discharge, easily treated. Physicians must be aware of this condition. The final diagnosis requires microscopic methods that are not accessible from Primary Care, place where women usually consult first. Due to this limitation, it is important to know the characteristics of the desquamative inflammatory vaginitis and other forms of persistent vaginitis and its associated factors, so treatment can be prescribed from the clinical suspicion, physical examination and using treatment trials.

### Keywords

Vaginitis, Differential diagnosis, Inflammation, Primary health care

### Introduction

Vaginitis is a common disease among women of all ages [1]. This term encompasses different diseases with common symptoms, becoming chronic when it lasts for more than a year, what occurs in up to 62% of women with symptoms of this disease such as itching or discharge [2]. It is usually caused by a loss in the balance of the vaginal flora, so some mycotic forms or certain bacterial species become predominant (like *Candida*, *Mycoplasma* or *Trichomonas*) [3]. Although it is a well-controlled pathology in most cases, symptoms sometimes persists over time (even more than a year), becoming a chronic disease responsible of an important decrease in women's quality of life due to its physical and psychological implications [4]. Some of the most frequently causes of persistent vaginitis are contact dermatitis (21%), recurrent vulvovaginal candidiasis (21%), atrophy (15%), provoked vestibulodynia (13%) and physiological discharge (9%), among others.

Persistent vaginitis can be caused too by some diseases that are not well-known by physicians. One of these is desquamative inflammatory vaginitis, which etiology remains unknown and may course with vaginal discharge, itching, dyspareunia and erythema [5].

Since primary care is where women consult first, it is important to analyze the management of chronic vaginitis in this level of assistance, analyzing its shortcomings. In Spain a quarter of the women who attend their primary care clinic each year claims for symptoms of vaginitis, and it is estimated that half of it may have recurrent symptoms over a year (persistent vaginitis), being an entity that requires an appropriate differential diagnosis [6]. It is therefore necessary to understand how to make a correct diagnostic and therapeutic approach to it.

A case of persistent vaginitis is described in order to analyze the principal causes and management of persistent vaginitis, underlining the desquamative inflammatory vaginitis which is a disease unknown for many physicians [4].

A 27-year-old woman complained of vaginal itching, dyspareunia and increased vaginal discharge, which described as yellow and thick. Her complain was dated two weeks ago, and she admitted that she had had similar episodes three times per year in the last thirty six months. She referred to have the same male partner for the last decade, used regularly birth control pills, and had no other medical history of interest. There is no other symptom in the formal anamnesis.

Physical examination was made after the anamnesis, finding a thick, yellowish vaginal discharge, mild erythema and oedema on both labia minora. Reviewing the patient's medical record, we found one positive culture for *Candida Albicans*, and others inconclusive. A new swab was ordered, and no microorganism was observed. pH measured with a quick strip was 5. The patient was treated with metronidazole 400 mg/12h for a week, and had some improvement, but was not completely recovered.

One month later she came again to the Primary Care Centre with the same complaint. Psychologically the patient had feelings of shame because she cannot have her intimate relationships due to lack of self-esteem from the bad smell she was suffering from, and associated dyspareunia. Her physical examination was similar to what reported in the previous description.

The diagnosis of chronic vaginitis was made, and the patient received treatment several times with vaginal clotrimazole and metronidazole thinking on bacterial vaginosis, as it is a more common etiology of vaginitis. As patient didn't get a continuous and complete recovery, other causes of persistent vaginitis were considered.

**Citation:** Acosta-Benito MA (2016) Desquamative Inflammatory Vaginitis and Other Persistent Vaginitis: A Case Report. Int J Womens Health Wellness 2:029

**Received:** June 23, 2016: **Accepted:** August 08, 2016: **Published:** August 10, 2016

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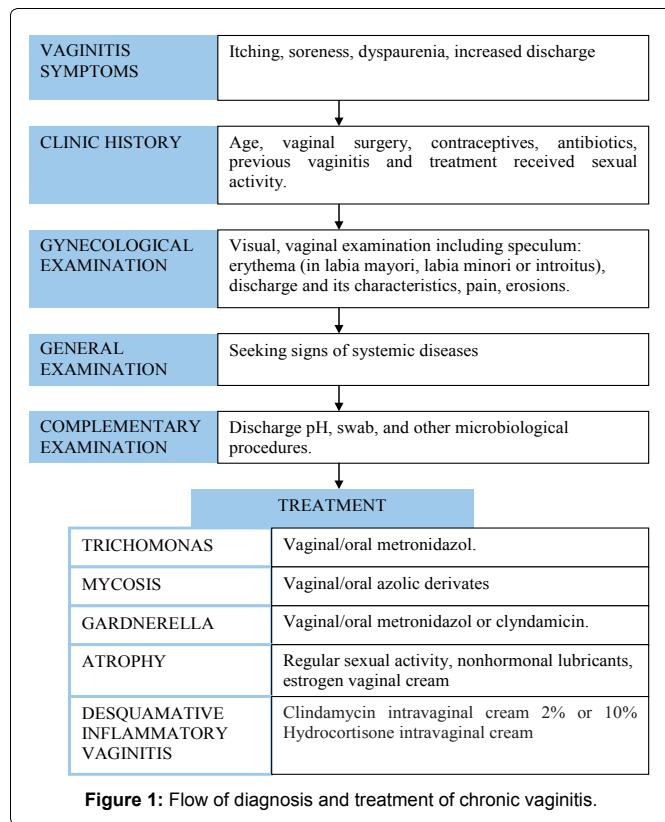


Figure 1: Flow of diagnosis and treatment of chronic vaginitis.

The characteristics of the physical examination (intense vaginal erythema) and the long-term use of birth control pills, made us think of desquamative inflammatory vaginitis as the presumptive diagnosis. She received 2% clindamycin vaginal cream (Dalcin®). Three weeks later there was no symptom of vaginitis, and the patient remains asymptomatic two months after.

The clinical suspicion before the treatment with clindamycin cream was desquamative inflammatory vaginitis. Although this diagnosis needs to be confirmed by a wet smear (white blood cells are seen on saline microscopy), as this technique is not available on primary care and time of derivation to Gynaecology is long, it was decided to treat in order to ease the woman's symptoms.

## Discussion

There are different manifestations of vaginitis like erythema, discharge or erosions in women that usually presents symptoms as vaginal itching, dyspareunia, pain or vulval swelling. The origin of these symptoms and signs is vaginal inflammation, and it is chronic when it happens during, after or in spite of treatment [3], or repeatedly over a year [4].

Chronic vaginitis is not as frequent as acute vaginitis, which etiology is usually candidiasis, trichomoniasis or bacterial vaginosis. Other less frequent causes are allergic reactions or vulvar dermatoses [7]. Nevertheless, is not unusual that some women present this symptomatology during weeks or months. There are several reasons for this to happen: recurrent infectious vulvovaginitis, poor treatment compliance, drug resistance, epithelial atrophy or the presence of other rarer causes of inflammation (as desquamative inflammatory vaginitis) [3]. Management of chronic vaginitis is resumed in figure 1.

As the most common causes of persistent vaginitis, we must discard the presence of infection. Most frequently associated microorganisms include those implied in acute vaginitis [7]. It is important to understand the principal causes that make these infections become chronic.

Trichomoniasis is often persistent due to drug resistance and/or wrong diagnosis. It is often undiagnosed because of the absence of rapid means to facilitate the identification of the pathogen, so that the infection is treated with inappropriate drugs [8].

In other cases, *Candida albicans* is behind the chronic vulvovaginal inflammation, not for colonization but for a hypersensitivity response genetically determined. This inflammatory mechanism is favored by the presence of oestrogen, so is more frequent in young women [9]. Other species of candida can produce vaginitis with higher resistance rate, like *Candida glabrata* or *Candida parapsilosis*. In these cases, sometimes we need to maintain treatment for six months [4].

Bacterial vaginosis is another frequent condition in women within reproductive age. Is not clearly established if it has sexual transmission or not. There is a high recurrence ratio in spite of treatments, so self-made remedies are frequently used as a consequence of the bad response to drugs [10]. Recent studies and reviews emphasize that biofilms made by *Gardnerella vaginalis* may be the reason for persistent bacterial vaginosis, insisting in the importance of re-establish the normal flora, in which *lactobacillus* are predominant. The use of metronidazole gel twice a week for four months can resolve this infection. The use of condom during the treatment is recommended, in order to preserve normal flora [4].

Nonetheless, persistent or chronic vaginitis can be caused by inflammation, without a clear relation to any infectious process [11].

On one hand, vulvovaginal atrophy is common among postmenopausal women, and dryness is more important than discharge as a symptom. In the physical examination we can find external genitalia atrophy, petechiae and a yellow discharge [11]. It can be solved in most cases with nonhormonal lubricants and continued sexual activity, but sometimes is necessary to add an estriol vaginal gel. If there is any contraindication, some studies support the use of androgens or hyaluronic acid intravaginal gel [12,13].

On the other hand, desquamative inflammatory vaginitis is a chronic disease of unknown aetiology [5]. It is responsible of the 8% of chronic vaginitis, and it has been related to bacterial overgrowth, to an immune-mediated reaction or to a toxin-induce reaction to *Staphylococcus Aureus*. It usually occurs in women with low estrogen levels (as in the case of taking contraceptives), that are breast-feeding or post menopause. An important introital and vaginal erythema appears which differentiates this entity to atrophy. White blood cells can be seen on saline microscopy, but they can't be found in case of atrophy [4].

As microscopy is not an accessible technique for primary care professionals, creating a strategy for the diagnosis of this disease in this level of assistance is necessary. The first step includes taking a complete personal history of the patient, asking for previous treatments (prescribed by a doctor or self-administered), sexual history, gynecological history, and characteristics of the menstrual cycle [4]. It is important to know about any vaginal surgery, if the patient has often received antibiotics, or if takes contraceptives that condition a low blood level of estrogen. These conditions are related to desquamative inflammatory vaginitis [1]. Most frequent triggers include diarrhea and antibiotic treatment [14].

On the physical examination a really intense erythema in labia minora is found, sometimes accompanied by oedema and small erosions. In the introitus confluent erythema and petechial lesions can be present [3]. Purulent discharge, most times yellow or green and thick, is another of the typical findings. It is important to examine other mucosal surfaces in order to discard systemic diseases as lichen planus [4]. In the examination with the speculum, inflammation is patchy, and we have to discard the presence of foreign intravaginal bodies [15]. Differential characteristics of vaginal examination are shown in table 1.

We must make a vaginal swab because the presence of trichomonas, fungal infection or bacterial vaginosis, as other infections must be excluded. pH of the vagina is always above 4.5 [16]. Culture for aerobic bacteria can show an overgrowth of them [4]. It can be useful to test the presence of *Staphylococcus Aureus* in specific culture or PCR [5] as it has been related to desquamative inflammatory vaginitis [4].

**Table 1:** Differential characteristics of the different chronic vaginitis [11].

Type of vaginitis	Trichomoniasis	Bacterial vaginosis	Mycosis	Atrophy	Desquamative inflammatory
Characteristics of discharge	White or yellow, foamy, smelly	Grey, adherent, smelly	White-creamed, thick	Transparent or white, not thick	Yellow or green, thick
Pain	Yes	Yes/no	No	No	Yes
Itching	Yes	Yes	Yes	Yes	Yes
pH	> 4.5	> 4.5	< 4.5	> 4.5	> 4.5
Vaginal aspect	Erythema	Erythema	Continuous erythema	Atrophy	Intense patchy erythema, petechiae.

Is not usual need to use microscopic techniques and/or C-reactive protein (PCR) for the diagnosis, regarding that these tools are not easily accessible from Primary Care [4]. Increase of inflammatory cells and parabasal epithelial cells is found in microscopy [16].

Due to the important symptomatology and the difficulties in the access to some of the diagnostic tools, Primary Care doctors have to suspect the presence of desquamative inflammatory vaginitis from the anamnesis and the physical examination. Examine the vaginal pH with a strip is a simple test which result is immediate, and obtaining samples for culture and performing an exudate are also accessible techniques [16]. Most cases must be identified by using these techniques after a careful clinical evaluation, and helped by trials of treatment [14].

Clindamycin intravaginal cream 2% or 10% Hydrocortisone intravaginal cream daily for 4-6 weeks is effective in controlling symptomatology, but more than 50% of patients need maintenance treatment. If the initial response is favorable, there are better chances of being asymptomatic after acute treatment [17].

The patient has to be referred to a gynecologist if presents resistance to treatment, including those long-term treatments for persistent vaginitis. Also must be referred if a potentially serious situation as immunosuppression is suspected, after performing diagnostic tests to establish the basic characteristics of the disease [6].

## Conclusion

Most common causes of persistent vaginitis in primary care are infections like *Trichomonas vaginalis*, *Candida* or *Gardnerella*. Nevertheless, Primary Care physicians must suspect other causes like atrophy or inflammation.

Although improving the access to diagnostic tools to identify the different causes of chronic vaginitis may help in the management of this entity, nowadays Family Doctors should base their practice in an adequate anamnesis, a physical examination that discerns the differences between distinct types of vaginitis and the use of complementary procedures as cultures or exudates.

Desquamative inflammatory vaginitis may be an identifiable disease in Primary Care if doctors consider it as a diagnosis option. It can be easily diagnosed and treated from this level of assistance, by knowing its specific clinical presentation and supported by trials of treatment.

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