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Cryotherapy of Genital Warts

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ABSTRACT

Introduction: Genital warts are a frequent form of sexually transmitted disease. Cryotherapy represents the first line of therapy. Healing occurs in 94%, and recurrence in 10% . Side effects are common during the treatment. **Aim:** The aim of this study is to determine the successfulness of cryotherapy of genital warts, frequency of recurrence, and side effects. **Patients and methods:** In a retrospective study, data from 50 women with genital warts who were treated in the Gynecological Centre "Dr Mahira Jahić" in Tuzla in a period from 2012–2018 were analyzed. Every woman was treated with cryotherapy. Treatments were repeated every 7 days, maximal number of treatments being 7. In processing of data, X^2statistical method was used. **Results:** 50% (N-25) of genital warts eliminated after 3 treatments with cryotherapy . Genital warts are eliminated in 78% (N-39) of women, while this treatment was unsuccessful in 18% (N-9). Recurrence after 3 months in 4% (N-2). Most common side effect was exudation in 78% (N-39), swelling in 72% (N-36) and pain in 66% (N-33). PAP smears in women with genital warts in 64% (N-34) of cases were inflammatory benign changes, while in 36% (N-18) mild abnormal changes in cells ASCUS and LSIL were found. LSIL lesions of cervix are more common ($p<0,01$) in women with genital warts of vulva. **Conclusion:** Cryotherapy is a method with a high success rate in healing of genital warts, and it decreases the concentration of HPV virus and removes the trigger that allows the development of cancer.

Keywords: Cryotherapy, genital warts, HPV.

1. INTRODUCTION

Genital warts, also known as Condylomata acuminate, are a frequent form of sexually transmitted disease. Every year infection occurs in 500 000 to one million USA residents (1), and in approximately 1% it is clinically visible in sexually active population (2, 3). Condylomata acuminate are vulvar exophytic benign tumors that occur as a consequence of infection with Human papillomavirus (HPV) 6 and 11 in 90% of cases (4). Other risk factors, besides HPV infection, are: smoking, hormonal contraception, multiple sexual partners and early sexual activity. Around half of new infections of genital region occur in young adults (ages 19 to 25), who early enter into sexual relationships and have multiple partners (5).

Patients with genital warts complain on pain, itching, increased secretion and bleeding. Lesions are often multiple, multifocal and occur in the region of vulva, perineum, vagina and cervix, but they can also occur in oral and laryngeal region. Lesions can spontaneously disappear, but also expand and increase. These lesions lead to lack of confidence in patients, guilt, anxiety, interference with sexual activity, but are also associated with cancer. Very often, it is found that the patients with low and high-grade squamous intraepithelial lesions of cervix (LSIL and HSIL) were treated for genital warts in the past 10 or 15 years. Treating is necessary. Methods of treatment are: cryotherapy, laser, cauterization, surgical treatment, and therapy with medications, hemotoxic agents and immune modulators.

Cryotherapy is one of the methods that is safe, highly successful and can be used during pregnancy. It represents first line of therapy that is recommended for these changes on vulva (6). Freezing of each genital wart separately is recommended and the treatment is repeated every 7 days. 7 treatments are allowed. Usually the healing takes 3-4 treatments. Treatment covers approximately 94% and recurrence occurs in 10% of cases, 1-3 months after treatment. During treatment, unpleasant side effects are common.

2. AIM

The aim of this study is to determine the successfulness of cryotherapy of genital warts, frequency of recurrence, as well as the most common side effects of this treatment.

3. PATIENTS AND METHODS

In a retrospective study, data from 50 women with genital warts of vulva and perineum who were treated in the Gynecological Centre "Dr Mahira Jahić" in Tuzla in a period from August 2012 to December 2018 were analyzed. Following data were analyzed from protocol and computer program GynObst : gynecological examination, colposcopy, PAP smear and control examinations after therapy. Gynecological examination and colposcopy are used to diagnose genital warts of vulva and perineum. Every woman was treated with cryotherapy with MedGyn MGC-200 system with liquid nitrogen. Genital warts are treated in such way that each wart is completely frozen reaching the base of the wart. Treatment is repeated every 7 days, and the number of treatments depends on the disappearance of genital warts. Maximal number of treatments is 7. In processing of data, X^2statistical method was used.

4. RESULTS

The average age of all women was 34,58, youngest being 19, and the oldest 55 years old (Table 1).

The biggest number of genital warts was treated after 3 treatments with cryotherapy, in 50% (N-25) of women. Two treatments were enough to treat 26% (N-13) of women, while IV treatments eliminated these changes in 6% (N-3) of women. Treatment was unsuccessful in 18% (N-9) of women (Table 2).

Genital warts of vulva and perineum are eliminated in 78% (N-39) of women, while this treatment was unsuccessful in 18% (N-9) of women. Return or recurrence of genital warts occurred after 3 months in 4% (N-2) of women (Table 3).

Characteristics of women	
Age	34,58
Married	36
Unmarried	14
Number of births	1,8±0,5
Number of miscarriages	2,3±0,2

Table 1. Vital characteristics of women with genital warts of vulva and perineum

Number of treatmants	I	II	III	IV	V	VI	VII
Women with genital warts	50	50	37	12	9	9	9

Table 2. Women with genital warts of vulva and perineum that were treated with cryotherapy, including number of cryotherapy treatments

Women with gen. warts after cryotherapy	Healing	Recurrence	Unsuccesful treatmant
N0 -50	39	2	9
Percentage %	78	4	18

Table 3. Healing and recurrence of genital warts of vulva and perineum after 1 and 3 months after cryotherapy

PAP smear in women with Genital warts of vulva	Number of women No–50	Percentage % X^2
Inflammatory changes	32	64
ASCUS	11	22 p<0,05 (X^2-6,3)
LSIL	7	14 p<0,01 (X^{2-} 10,6)

Table 5. Results of PAP smear in women with genital warts of vulva and perineum

Side effects	Number of women	Percentage %
Swelling	36	72
Pain	33	66
Exudation	39	78
Scaring	13	26
Ulceration	3	6
Infection	7	14
Bleeding	2	4

Table 4. Side effects of cryotherapy of genital warts of vulva in 50 women

Most common side effect was exudation in 78% (N-39), then swelling in 72% (N-36) and pain in 66% (N-33) of women (Table 4). Bleeding in 4% (N-2) was the rarest side effect.

PAP smears in women with genital warts in most cases 64% (N-34) were inflammatory benign changes, while in 36% (N-18) low abnormal changes in cells ASCUS and LSIL were found. Changes of HSIL were not found.

5. DISCUSSION

Cryotherapy of genital warts is one of the very safe methods that can be used in pregnancy, and has a very high success rate of 79-88% in treating of this disease (7). In our study, the rate of healing after cryotherapy was 78%, which is accordant to cited study. Treatment of cervix is more successful, so Jahić found 89% success rate in LSIL changes (8, 9). During treatment, most women were healed after the third treatment 50% (N-25). Yang too, cites the highest success rate with cryotherapy after the third treatment of genital warts of vulva with healing in 72,7% (11). Healing was unsuccessful in 18% (N-9) of women, which resulted in treatment with other methods. Cause of failure of treatment is unknown, the study showed those were women over the age of 40. Risk factors for long periods of persistence of genital warts include infection with highly risky types of HPV, immune suppression and older patients (12).

Recurrence occurred in 4% (N-2) of women after 3 months, while Yang cites the frequency of recurrence in 6,3%. Other authors cite that the recurrence occurs in 21-42% of cases three months after cryotherapy (13).

Frequent side effects of cryotherapy are: exudation, swelling, local destruction of the tissue, painful therapy treatments, ulceration and loss of pigment in skin (10). Exudation was found in 78% (N-39), swelling in 72% (N-36) and pain in 66% (N-33) of women. Other authors cite pain

in 62%, swelling in 62,5%, exudation in 31% and bleeding in 37% of cases during cryotherapy (10).

Withdrawal of HPV infection can occur spontaneously, but in 10-20% of women this infection persists and these women have a risk of development of LSIL, HSIL lesion or cervix cancer (13). In 36% (N-18) a change of mild grade was found in PAP smear. Statistically significant frequency of LSIL lesion (p<0,01) was found in women with genital warts of vulva. Findings of genital warts on vulva are necessary to be treated, and in the future regular controls of PAP smear are recommended because of possible development of precancerous lesions of cervix.

6. CONCLUSION

Cryotherapy is a method with a high success rate in healing of genital warts, followed by side effects such as exudation and swelling, and rarely bleeding and ulceration. Thanks to high success rate of these changes, it decreases the concentration of HPV virus and removes the trigger that allows the development of cancer.

- **Declaration of patient consent:** The author certify that they have obtained all appropriate patient consent forms.
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