

Treatment of condylomata acuminata – surgical excision and CO₂ laser vaporization

S. Perišić, Z. Perišić, L. Tasić and M. Vasiljević

ABSTRACT

Background. The use of different procedures for treatment of HPV depends on the viral genotype, the localization of lesions and the stage of infection.

Materials and methods. Results from the treatment of 592 patients at the OB/GYN Hospital “Narodni front” (Belgrade, Serbia and Montenegro), with intraepithelial lesions of cervix, vagina and vulva caused by HPV, were evaluated. Various treatments were applied: surgical excision, CO₂ laser vaporization, surgical excision followed by CO₂ laser vaporization, podophyllin, interferon beta gel, cryotherapy and abrasion.

Results. After three months, the comparative incidence of recurrences was as follows: the highest percentage was in the group of patients that had been treated with podophyllin, interferon beta gel, cryotherapy or abrasion (14,5%), while the lowest was in the group treated with classic surgical excision followed by CO₂ laser vaporization (5,77%).

Conclusion. Our results show that surgical treatment followed by CO₂ laser vaporization was the best treatment for condylomas of cervix, vagina and vulva.

KEY WORDS

condylomata acuminata, surgical treatment, CO₂ laser vaporisation

Introduction

Today, more than 100 genotypes of HPVs are well-known. The infection may express itself as visible genital warts (usually caused by HPV types 6 and 11), as subclinical forms that can be observed by colposcopic examination of the cervix, vagina and vulva after the application of acetic acid, or as latent manifestations that can be recognized only using molecular techniques.(1) It is difficult to estimate the overall preva-

lence of HPV infections, but the available figures show an increase among sexually active adults, the highest rate being in the 20 – 25 age group. The statistical likelihood of acquiring HPV infection increases in accordance with the number of sexual partners (2).

There are different procedures available for treatment of HPV infections depending on the viral type, the localization of lesions and the stage of infection:



Fig 1. Condylomata acuminata before treatment

podophyllotoxin (cream or solution), podophylin, imiquimod (Aldara), interferon beta gel, the application of trichloroacetic acid, cryosurgery, electrocautery, curettage, classic surgery or CO₂ laser vaporization (3). Our method of choice for treatment of vulvar, vaginal and anal intraepithelial lesions is classic surgery followed with CO₂ laser vaporization (4). The advantage of this treatment is the complete removal of lesions with minimum destruction of healthy tissue and minimal pain (5, 6). The antiviral and antibacterial effect of the laser beam, the rapid epithelisation of treated tissue, the immediate effectiveness of the treatment and the low rate of recurrence are further advantages (7,8).

Materials and methods

During the period January 1, 2001 - October 31, 2002 at the OB/GYN Hospital "Narodni front" we



Fig 2. Condylomata acuminata after treatment

Table 1. The rate of recurrence at three months after treatment of condylomata acuminata in 592 patients with various therapeutic methods.

Type of treatment	First treatment in % of patients	Recurrence after 3 months in % of patients
Surgical treatment	5,40	15,63
CO ₂ laser treatment	23,99	9,86
Surgery + CO ₂ laser	38,00	5,77
Other methods*	32,61	14,50
T O T A L	100,00	

* Other methods – podophyllin, interferon beta gel, cryotherapy and abrasion.

treated 592 patients with multifocal and multicentric intraepithelial lesions of the cervix, vagina and vulva triggered by HPVs. Because of the multicentric nature of the lesions it was necessary to examine carefully the entire lower genital tract (9). Figure 1.

For statistical evaluation we used the following statistical methods: Mann–Whitny, the χ^2 T–test and Spearman’s and Pearson’s correlation.

Results

In 32 cases (5,40%) we performed classic surgical treatment (scalpel excision), in 142 cases (23,99%) CO₂ laser treatment was applied, and in 225 (38,00%) combined surgery and CO₂ laser treatment. The remaining 193 patients (32,61%) were treated with podophyllin, interferon beta gel, cryotherapy or abrasion. Because HPV causes multifocal and multicentric lesions of the lower genital tract while isolated lesions of the cervix, vagina or vulva are rather rare, following the diagnosis of condylomata acuminata we treated 238 patients (40,21%) with lesions which spread from vulva to cervix, and 354 patients (59,79%) where the lesions were located on two organs. Three months later we established the following recurrence rate: in the group that had been treated surgically by scalpel excision we observed recurrence in 5 patients (15,63%); in the group that was treated with CO₂ laser we observed recurrence in 14 patients (9,86%); in the group that was treated both surgically and with CO₂ laser vaporization we observed recurrence in 13 patients (5,77%); Figure 2. In the group that was treated with other methods (podophyllin, interferon beta gel, cryotherapy) we observed recurrence in 28 patients (14,50%).

The majority of recurrences were detected on the vaginal and vulvar epithelium (94,57%). These patients were immunodeficient for various reasons: genetic fac-

tors, pregnancy, diabetes mellitus and morbus Hodgkin among others that provoked the slow healing of vaporized lesions or a persistent HPV infection.

Conclusion

We observed that certain sites have a predilection for the development of certain genotypes of HPV. Condylomata acuminata most frequently appear on the vaginal and vulvar epithelium. Because multicentric

lesions are very frequent, it is necessary to make a complete colposcopic examination of the lower genital tract. Adopting this approach enables a precise diagnosis and allows for adequate treatment (10).

Statistically, our data shows that the combination of scalpel surgery and CO₂ laser vaporization is the best treatment for genital condylomas of the cervix, vagina and vulva (especially for intravaginal and cervical lesions) (11). It does not affect normal tissue or cause scars. Local or general anesthesia is necessary, depending on the number and size of the condylomas.

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AUTHORS' ADDRESSES

Svetlana Perišić, MD, dermatologist, Corresponding author: Clinical and Hospital Center "Zvezdara", 11000 Belgrade, Serbia and Montenegro, email: eterna@eterna.co.yu
Živko Perišić, MD, PhD, Assistant Professor, OB/GYN Hospital "Narodni front", Belgrade, Serbia and Montenegro
Lidija Tasić, MD, same address
Mladenko Vasiljević, MD, same address