Original article

Outcomes of surgical treatment of perianal warts in HIV-positive and HIV-negative patients are similar in terms of recurrence rate and course of recovery

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Abstract: Aim of the study: to compare outcomes of surgical treatment of perianal warts in HIV+ vs. HIV- patients. Patients and Method: The study is a retrospective analysis of all surgical treatments of perianal warts performed in the Colorectal Surgery Ward of Warsaw Solec Hospital between 2004 and 2011 including 24 HIV+ and 57 HIV- patients. Groups were compared in terms of number of re-treatments and time period of hospitalisation as indicators of healing and recovery course. Statistical analysis included chi-square tests for non-parametric variables and median value and range for parametric variables. Results: Within HIV+ group there were 13 (54.17%) patients meeting AIDS criteria. Median CD4 count at the time of surgery was 373. In total there were 13 cases of re-treatment due to recurrences, 5 in HIV+ group and 8 in control group. The average length of hospitalization was 4.66 days (4.17 in HIV+, and 4.82 in control group). Number of cases with longer than average hospitalization was 9 in HIV+ group, and 16 in control group. No statistically significant differences between groups have been demonstrated. Conclusion: In patients with HIV/AIDS the recurrence rate as well as post-operative course and healing was similar as in HIV-negative patients.

Key words: Perianal Warts; HIV; AIDS.

INTRODUCTION

Perianal warts (Condylomata acuminata) result from infection with human papilloma virus (HPV). More than 60 subtypes of HPV have been identified with types 6 and 11 most commonly associated with the benign, exophytic condylomata of the anogenital region. Types 16 and 18 have been associated with more aggressive lesions that can transform into anal intraepithelial neoplasia (AIN) or invasive cancers.[1] Since primary mode of transmission of anogenital HPV is sexual intercourse, genital and perianal warts are one of the most prevalent STDs in HIV+ patients. In the Polish Observational Cohort of HIV patients (POLCA), this prevalence ranged from 5.48% in women to 13.72% in men. Big variations were seen between groups of risky behaviours, with the highest prevalence (44.66%) observed in homo- and bisexual men.[2] Nadal et al. assessed that perianal warts are the most frequent proctologic condition among patients infected with HIV.[3] Warts are easily recognized and range in size from millimetres (Figure 1) to a large Buschke-Löwenstein (Figure 2) type lesions and only in 6% of cases warts are confined to the skin of perianal area. The majority of patients have also warts extending in the anal canal.[4]

Treatment of warts is difficult because of high recurrence rate of the disease. Warts can be treated by conservative methods or by more invasive surgical methods (Figures 3, 4). The currently used treatments include destructive therapy, immunotherapy and excisional therapy.[5-8] Administration of these methods greatly depends on the location of lesions. Application of some treatments commonly used in treatment of externally located warts is contraindicated in lesions located in anal canal. Destructive treatments should be used only for lesions located on the skin, and must not be used for lesions located on the mucosa of the anal canal because of potential for causing necrosis, burn or congelation. Treatment of external warts without concomitant treatment of internal lesions leads to treatment failure. Studies of effectiveness and safety of surgical treatments in patients with HIV/AIDS before the Highly Active Antiretroviral Therapy (HAART) era were giving variable and sometimes conflicting results.[9-16] On the other hand, there are few outcome studies of surgical treatment between HIV/AIDS pa-

Figure 1. – Perianal warts and warts in the anal canal

Figure 2. – Buschke-Löwenstein tumour.

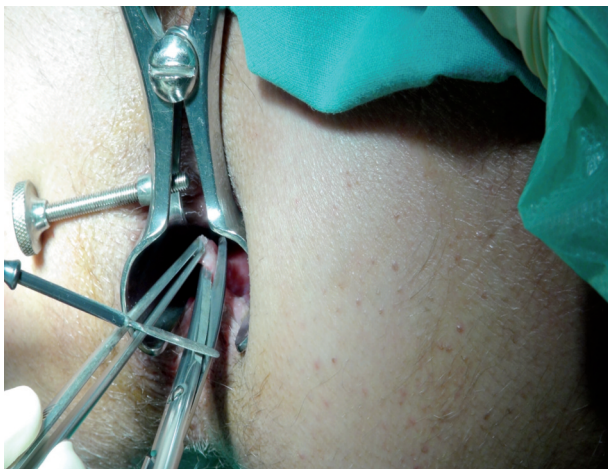

Figure 3. – Surgical excision with simultaneous electrocoagulation.

tients on effective HAART as compared to HIV-negative patients. [17,18]

AIM OF STUDY

1. To compare the recurrence rate in immunocompromised patients vs. immunocompetent controls
2. To compare the length of healing and post-operative course in immunocompromised patients vs. immunocompetent controls.

PATIENTS AND METHODS

The study presents a retrospective analysis of all cases of surgical treatment of perianal warts performed in the General Surgery - Colorectal Surgery Ward of Solec Hospital in Warsaw between 2004 and 2011. The analysed population included 24 HIV-positive patients and 57 HIV-negative controls. In all patients the standard surgical technique was used and HIV-positive patients were treated in accordance with international guidelines (EACS). Both groups were compared in terms of number of re-treatments and the length of hospitalization. Length of hospitalization was chosen as indicator of healing and recovery course. Additionally, analysis included demographic parameters (for both groups) and immunological parameters, antiretroviral treatment and stage of HIV infection according to the Centers for Disease Control (CDC) classification (for HIV+ group). Statistical analysis of differences between groups included chi-square tests for non-parametric variables and median value and range for parametric variables. For length of hospitalization average and number of cases exceeding average was analyzed.

RESULTS

Study included 69 men and 12 women with median age at time of surgery of 31 years (31.5 [21-66] in HIV- and 30 [23-45] in HIV+ patients). There were 24 HIV+ patients and 57 HIV- patients. Within HIV+ group there were 13 (54.17%) patients meeting the CDC criteria for diagnosis of AIDS. Median CD4 count at the time of surgery was 373 (199 - 873) cells/mm3. Eighteen (78.26%) patients were treated with HAART. In total there were 13 cases of re-treatment due to recurrences. In the HIV+ group there were 5 cases (20.83%), and 8 (14.03%) cases in control group. This difference was not statistically significant (p=0.4467). The average length of hospitalization in the total population was 4.66 days (4.17 in the HIV+, and 4.82 in their control group). The number of cases with longer than average hospitalization was 9 (38.50%) in HIV+ group, and 16 (28.07%) in the control group. This difference also was not statistically significant (p=0.3340)

DISCUSSION

Surgical therapy has the advantage over the conservative methods of usually eliminating warts at a single visit. Warts can be removed by scalpel or scissors excision and electrocoagulation. In case of electrocoagulation the visible warts can be physically destroyed, but care must be taken to control the depth of coagulation to prevent scarring. Because most warts are exophytic, this can be accomplished with a resulting wound that extends only into the upper dermis. When surgical removal is done properly in most cases suturing is not necessary. In case of disseminated, carpet-like lesions in the anal canal it is absolutely necessary to perform excision in several steps, leaving bridges of mucous membrane to preserve the proper function of the anus. Too broad removal of mucous tissue in anal canal may lead to constricting scars and signs of sensory faecal incontinence.

Surgical therapy is most beneficial for patients who have a large number or area of warts. Also, surgical excision is a treatment of choice for warts localized in the anal canal. Indications for surgical treatment of warts in HIV+ patients are the same as in seronegative patients, and treatment is well tolerated. Numerous researchers agree that indications for surgical treatment and post-operative course in asymptomatic HIV+ patients are similar to HIV- patients, but the healing period and frequency of complications may increase with HIV progression.[19,20] Therefore, despite potentially good results of surgery, immunocompromised patients could possibly require prolonged stay in hospital because of more complications or delayed healing. In our analysis such association has not been observed and length of hospitalization mainly depended on magnitude of lesions and extensiveness of surgical procedure. On the other hand immunodeficiency could lead to increased recurrence rate as observed in other chronic infections. Studies suggest that in HIV+ patients recurrence rate is high, even up to 50% within 6 months of surgery,[21] but in analyzed group of patients included in this analysis there have been no statistically significant differences in re-operation rate between HIV+ and HIV- patients. However, in patients diagnosed with HIV/AIDS it is advisable to perform elective surgical procedures at relatively high CD4 count. In our group all HIV+ patients were referred to surgical treatment by a specialist in HIV/AIDS

Figure 4. – Status after excision.

treatment. Most patients were treated with HAART and all but one had relatively high CD4 count at the time of surgery. Therefore, to facilitate successful treatment outcomes a good co-operation between HIV/AIDS treating centre and surgical/proctologic ward is recommended.

CONCLUSIONS

1. Excision of perianal warts in well-managed HIV/AIDS patients with a relatively high CD4 count has similar rate of recurrences requiring re-treatment as in HIV-negative patients.
2. Post-operative course and healing in potentially immunocompromised patients was similar to those in immunocompetent patients and required similar length of hospitalisation.
3. If HIV-positive patients are properly prepared to the surgery in terms of CD4 count and viral load, surgical treatment is safe.

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Multidisciplinary Uro-Gyne-Procto Editorial Comment

To improve the integration among the three segments of the pelvic floor, some of the articles published in **Pelviperineology** are commented on by **Urologists**, **Gynecologists**, **Proctologists/Colo Rectal Surgeons** or **other Specialists** with their critical opinion and a teaching purpose. Differences, similarities and possible relationships between the data presented and what is known in the three or more fields of competence are stressed, or the absence of any analogy is indicated. The discussion is not a peer review, it concerns concepts, ideas, theories, not the methodology of the presentation.

Andro... In this study, the authors demonstrated that recurrence of perianal HPV related warts is similar in HIV infected and in non HIV infected patients. Beside this important information, the manuscript rises some translational cues: a) Patients complaining urethral pain frequently have HPV infection detected by swabs at this site, even in absence of external genital warts. As for the anal infection, these patients could have presence of warts hidden in the internal part of uretra. More studies are needed to diagnose and treat treat this particular condition; b) In our andrological setting we frequently test positive for HPV 6, 11, 16 and/or 18 histotypes both male and female partners from infertile couples. Because the viral clearance is mandatory for their fertility and because in most cases the virus is longlasting despite medical counseling aimed to heal the infection earlier, anal site could represent in these patients a significant reservoir for HPV persistence even in absence of clinical signs; c) HIV infection represents an indication for assisted reproductive techniques in couples seeking fertility. Because HPV genital infection is highly incident in HIV infected patients and reduces ferility outcome, all HIV infected patients should be screened for HPV and anal warts before assisted reproduction; d) Recently, we demonstrated that HPV DNA can be found in blood mononuclear cells obtained from infertile patients with HPV sperm infection. Because this finding could represent a risk factor for cancer in sites far from HPV genital localization, it would be of interest to look for circulating HPV cells in subjects with anal warts and in particular in those with active bleeding or even immunocompromised; e) As warts locatet in other genital sites, also anal warts have high percentage of recurrence after treatment. In the light of the recent literature showing that HPV quadrivalent vaccination of already infected patients is effective in the reduction of both formation and recurrence of HPV related lesions, HPV vaccination could be proposed aimed to reduce anal warts recurrence in affected patients and in their sexual partners.

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Gyneco... The paper by Kołodziejczak et al. focuses a topic of great interest in gynecological practice. A relationship between Human Papilloma Virus (HPV) cervical infection and cervical cancer - the second most commonly occurring cancer in women worldwide - is well documented. Strategies to prevent it have been effectively implemented as at present cervical cancer is mainly reported (>85% of cases) in developing countries. George Papanicolau addressed this topic in 1942 and his cytologic test (Papanicolau smear test) represents the key stone of cervical cancer prevention1. Its capability of monitoring the high risk cervical transformation zone (T-zone: a border between the squamous epithelium of the ectocervix and the columnar epithelium of the endocervix where stem cells support the continuous turnover of both cell types) has been adopted in screening programs and still represents the basis to drive the clinical management through more invasive diagnostic steps.

Human Papilloma Viruses are the most common sexually transmitted agents. Approximately 12 high-risk subtypes are etiologically linked to cervical cancer and its immediate premalignant precursors; among them types 16 and 18 account for 70% of cervical cancer cases, reaching 90% when considering also 31, 33, 35, 45, 52, and 58 HPV types. On the other hand HPV 6 and 11 account for 90% of genital warts found in males and females.

The awareness of the role of special types of HPV infections in promoting cervical cancerogenesis prompted technology to identify the presence of papilloma viruses within the context of the transformation zone. This is now available and HPV genotyping for HPV16/ HPV18 has been recommended for triage in clinical practice. Nevertheless one should consider the economic burden of including HPV genotyping in clinical surveillance for cervical diseases. Moreover its role in screening programs is under debate.

The immunologic aspect of such viral infection has also been explored and specific vaccines have been developed. A quadrivalent vaccine (types 6, 11, 16, 18) has first been developed followed by a more oncological targeted bivalent vaccine (types 16 and 18). Vaccines are indicated in females between 9 and 26 years of age and their introduction in Public Health Programs has been debated. Anyway in clinical practice one should consider that even in vaccinated women the cytologic Papanicolau test can't be avoided.

Concerning perineal warts the quadrivalent vaccine is of choice and this aspect has to be considered while looking for risk-benefits.

Kołodziejczak et al. report a case series of 81 patients (69 males) surgically treated for perianal warts from 2004 and 2011. This highlights the importance of behavioral aspects, including the adoption of barrier methods at intercourses. Most of interest for gynecologists, the authors underline that most frequently warts extend in the anal canal and only in 6% of cases they are limited to the skin of perianal area. This represents a reservoir area to be carefully examined in women complaining of symptoms suggestive for genital condylomatosis.

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