

THE SOCIODEMOGRAPHIC CHARACTERISTICS, CLINICAL PROFILE AND TREATMENT RECORDS OF ANOGENITAL WARTS IN EASTERN UTTAR PRADESH- A RETROSPECTIVE EVALUATION FROM TREATMENT RECORDS AT A TERTIARY CENTRE

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ABSTRACT

BACKGROUND

Human Papillomavirus (HPV) infection is one of the most prevalent Sexually Transmitted Disease (STD). Up to the researchers' knowledge, no study concerning the genital warts in Eastern Uttar Pradesh was published, which was a motivation to study this problem.

AIMS

A retrospective study in the referral centre for Sexually Transmitted Infections (STIs) in Eastern UP to describe the socio-demographic characteristics, clinical profile and treatment of anogenital warts in Eastern Uttar Pradesh.

DESIGN

Retrospective cross-sectional study.

MATERIAL AND METHODS

All patients with the diagnosis of anogenital warts between the years 2009-2013 confirmed at the tertiary centre were examined retrospectively. Age, sex, sexual orientation, month of diagnosis, duration of infection, site of warts, treatment given and duration of treatment were noted. Other STD found in these patients was recorded. The outcomes of the treatment modalities for the treatment of anogenital warts during the study period were compared.

STATISTICAL ANALYSIS

Fisher test to compare outcomes of 2 treatment modalities.

RESULTS

Maximum burden of the disease was in the patients of age group 25-35 years with 193/640 (30.2%) patients in the category. Majority (67.5%) of the patients were male, majority (58.6%) belonged to rural areas; 87.2% had a positive history of contact; 66/548 (12.04%) had homosexual relationship; 30.5% patients accepted that their mode of acquisition was through contact with commercial sex workers. Mean duration of warts before approach for treatment was 2-4 months. Majority of male patients had penile warts (51.4%) and majority of female patients had warts on the post fourchette (41.3%); 83.8% patients accepted the fact of never adapting the means of safe sexual practices; 59.5% patients had more than 1 sexual partners; 20% of patients had records of other STD's as well, majority being HIV and herpes. The treatment of warts continues to be problematic. In my study podophyllin (20%) proved to be a much better treatment modality than imiquimod (5%) for the treatment of genital warts.

CONCLUSION

From treatment records prevalence of anogenital warts seem to be much lower than stated in the national records. The difference noted may be on account of study methodology of treatment records rather than active surveillance of patients. Statistically significant results with podophyllin as a better treatment option were seen.

KEYWORDS

Anogenital Warts, Socio-demographic Characteristics, Eastern Uttar Pradesh, Podophyllin, Imiquimod.

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INTRODUCTION

Anogenital Human Papillomavirus (HPV) is the most frequent sexually transmitted viral infection in the world, which can result in malignant cancers or benign skin and mucosal tumors including Anogenital Warts (AGWs).^[1] AGWs are categorized as a clinical anogenital HPV infection, because they manifest as visible lesions, namely as single or multiple papules on the vulva, perineum, perianal area, vagina, cervix, penis, anus, scrotum and urethra.^[1]

Clinical symptoms may include pruritus, burning, vaginal discharge and bleeding.^[2] Four distinct subtypes of AGWs have been described: condylomata acuminata (Pointed warts), flat/macular lesions, papular and keratotic lesions.^[1] The first two sub-types are mainly found on moist, non-keratinized epithelia, while the latter two usually present on keratinized epidermis.^[1] AGWs are also often referred to as genital warts, condylomata acuminata or genital verruca, although strictly speaking the first two terms are subsets of the anogenital category.

HPV 6 and 11 account for the majority of AGW cases.^[1,3-5] AGWs are highly infectious; approximately 65% of individuals with an infected partner develop AGWs within 3 weeks and 8 months.^[6] In rare cases, AGWs can be associated with malignant lesions, namely Buschke-Lowenstein tumors.^[5] Recent prospective studies reported that the median time between infection with HPV types 6 or 11 and the development of AGWs was 11 to 12 months among males.^[7,8] and 5 to 6 months among young females.^[9] Although, there are no severe health complications or mortality associated with AGWs, there are significant psychosocial issues which often ensue.^[10,11]

Treatment options include patient-applied (Home-based) chemical treatments (Podofilox, imiquimod), physician-applied (Office-based) chemical treatments (Podophyllin, trichloroacetic acid, interferon, green tea extract.^[12]) and ablative treatments (Cryotherapy, surgical removal, laser treatment).^[13-16] The main limitation of current therapies is the high recurrence rate after initial remission.^[15,17,18] The quadrivalent HPV vaccine demonstrated high efficacy in preventing the onset of HPV 6/11-related AGWs in both males.^[19] and females.^[20]

Although, AGWs rank among the most frequent Sexually Transmitted Diseases (STD).^[21,22] the epidemiology and of AGWs is not well characterized. In order to implement measures of prophylaxis, to increase awareness among people for the anogenital warts it is important to assess the extent of the infection in the area and various socio-demographic variables affecting the spreadability of disease in the concerned area. There is relative paucity of data in Eastern UP, which necessitated this study.

METHODS

All patients who had the diagnosis of anogenital warts in 5 years period, i.e. from 2009-2013 confirmed at the tertiary centre in Eastern UP by clinical or histopathological methods had their medical records examined retrospectively. Detailed medical records of patients with sexually transmitted diseases including anogenital warts are maintained at the separate STI clinic (Sexually Transmitted Infection Clinic) of the tertiary referral centres. The records had a mention of the age, sex, locality of infected patients and phone numbers (For the provision of contact tracing of the patients), educational level, employment status, month of diagnosis, sexual orientation, number of sex partners a patient is indulged with, duration of infection, site of warts, type of warts, treatment given and duration of treatment given to the patients which were noted. Other sexually transmitted diseases found in these patients were also noted.

We also attempted to interview every patient by telephone to find out if they had any clinical recurrences for which treatment was sought elsewhere.

Statistical analysis was done to compare the outcomes of the main modalities of treatment for anogenital warts during the study period.

RESULTS

A total of 640 patients were reported with the diagnosis of anogenital warts at the STI (Sexually Transmitted Infections) Clinic in the referral centre of the Eastern UP area. Sociodemographic parameters of patients-

AGE (IN YEARS)	NUMBER OF PATIENTS (n=640)
13-25 YRS	112
25-35 YRS	193
35-45 YRS	168
45-55 YRS	97
55-65 YRS	70

Table 1: Age distribution of patients

Males	Females
432(67.5%)	208(32.5%)

Table 2: Sex distribution of patients

Rural Area	Urban Area
375 patients (58.6%)	265 patients (41.4%)

Table 3: Locality (Rural/Urban) of patients

Educational Level	No. of Patients
Illiterate	206 patients (32.2%)
<10 th std.	97 patients (15.15%)
10 th -12 th std.	100 patients (15.6%)
Graduate	173 patients (27.03%)
Post Graduate	64 patients (10.0%)

Table 4: Educational status of patients

Married	Unmarried
410 patients (64%)	230 patients (36%)

Table 5: Marital status of Patients

Employed	Unemployed
444 patients (69.4%)	196 patients (30.6%)

Table 6: Employment status of patients

Profession	No. of patients (n=444)
Labourers	178 patients (40.09%)
Truck drivers	52 patients (11.7%)
Defence	23 patients (5.2%)
White collars	114 patients (25.67%)
Other	77 patients (17.3%)

Table 7: Profession of employed patients

Sexually active	Sexually inactive
548 patients (85.6%)	92 patients (14.4%)

Table 8: Sexual activity of patients

Heterosexual	Homosexual
482 patients (87.9%)	66 patients (12.1%)

Table 9: Sexual orientation of sexually active patients (n=548)

Positive	Negative
478 patients (87.2%)	70 patients (12.8%)

Table 10: History of contact in sexually active patients (n=548)

Commercial Sex Workers	Others
146 patients (30.5%)	332 patients (69.5%)

Table 11: Source of exposure in patients with positive contact history (n=478)

Duration of Illness (In months)	No. of Patients (n=640)
<2 months	178 patients (27.8%)
2-4 months	284 patients (44.4%)
4-6 months	100 patients (15.6%)
6-7 months	78 patients (12.2%)

Table 12: Duration of illness in months

Area Involved	Number of Male Patients (n=432)
Penis (Incl glans, prepuce, penile shaft)	222 (51.4%)
Scrotum	62 (14.4%)
Perineum	31 (7.2%)
Perianal	35 (8.1%)
Mixed	82 (19%)

Table 13: Genital area involved in male patients

Area Involved	Number of Patients (n=208)
Labia	42 (20.2%)
Posterior fourchette	86 (41.3%)
Perineum	35 (16.8%)
Perianal	15 (7.2%)
Mixed	30 (14.4%)

Table 14: Genital area involved in female patients

Type of Warts	Number of Patients (n=640)
Plane warts	72 (11.3%)
Filiform warts	196 (30.6%)
Accuminate warts	266 (41.5%)
Verrucal warts	106 (16.6%)

Table 15: Types of anogenital warts

Patients using condoms	Patients not using condoms
89 patients (16.2%)	459 (83.8%)

Table 16: Protective barrier usage in sexually active patients-(n=548)

1 partner	>1 partner
222 patients (40.5%)	326 patients (59.5%)

Table 17: Number of sexual partners of patients (n=548)

Other STD's Present	Absent
110 (20.1% patients)	438 (79.9% patients)

Table 18: History of other STD in sexually active patients (n=548)

Other STD Present	Number of Patients (n=110)
HIV	42
Herpes genitalis	32
Trichomonas	18
Hepatitis B	09
Scabies	09

Table 19: Other STD records of patients

Maximum burden of the disease was in the patients of age group 25-35 years with 193/640 (30.2%) patients in the category followed by those in age group 35-45 yrs. with 168/640 (26.3%) patients (Table 1). Majority (67.5%) of the patients were male (Table 2), majority (58.6%) belonged to rural areas (Table 3); 47.3% patients were either uneducated or had a low educational level (Table 4). Marital status of patients is shown in Table 5. Of the employed patients, 40% were labourers (Tables 6, 7). Sexual activity and sexual orientation of patients is shown in Tables 8, 9; 478/548 (74.7%) accepted on the fact of their positive history of contact (Table 10); 29.8% patients accepted that their mode of acquisition was through contact with commercial sex workers (Table 11). Mean duration of warts before approach for treatment was 2-4 months (Table 12). Majority of male patients had penile warts (51.4%) and majority of female patients had warts on the post fourchette (41.3%), the site of maximum coital friction (Tables 13, 14). Most of the patients recorded from the area had condyloma accuminata (41.5%) (Table 15); 83.8% patients accepted the fact of never adapting the means of safe sexual practices (Table 16); 59.5% patients had more than 1 sexual partners (Table 17); 20% of patients had records of other STD's as well, majority being HIV and herpes (Tables 18, 19).

The prevalence as from the treatment records came out to be lower than the reported nationwide prevalence. The difference noted may be on account of study methodology of treatment records rather than routine genital examination and active surveillance of patients, which would be a better estimate of the prevalence of disease in the area. The difference especially of lower prevalence of anogenital warts in the female patients from the records could be accounted by the fact of hidden and asymptomatic carriage of infection in the cervical or anal mucosa without coming to patient's knowledge. This could only come into light by routine genital examination of suspected patients through routine cervical smear. Further reluctance and shame on the part of female patients could also defer them from coming to the treatment centres.

The illiteracy and unprotected sexual intercourse of majority of patients brought into light the lack of awareness and knowledge among the people about HPV and genital warts. This was especially seen with adolescent age group where >60% denied any knowledge of HPV before acquiring the infection. There is a great need to fill this knowledge gap, especially in adolescent population to bring down prevalence of disease in the area.

Treatment

One of the following treatment modalities was given to the patients:

1. 5% Imiquimod cream was applied to the lesions and then advised to apply it every alternate day by themselves for duration of 6 weeks.
2. Topical 20% Podophyllin lotion was applied to the lesion once weekly under supervision and the same treatment was repeated for 6 weeks.

Podophyllin 20%	Imiquimod 5%
352 patients	288 patients

Table 20: Treatment modality used

Treatment	Completely Cured Patients
Podophyllin	238/352 (67.6%) patients
Imiquimod	93/288 (32.3%) patients

Table 21: Patients completely healed with the treatment

	2wks	4wks	6wks
Podophyllin	39 patients	90 patients	109 patients
Imiquimod	21 patients	30 patients	42 patients

Table 22: Time period for complete clearance of warts in the respective treatment groups

Podophyllin	Imiquimod
92 patients (38.6%)	28 patients (30.1%)

Table 23: Recurrence in patients with complete clearance of anogenital warts

TREATMENT GIVEN	PATIENTS WITH INCOMPLETE CLEARANCE (n=26)
RADIOFREQUENCY ABLATION	178 (57.6%)
CRYO	40(12.9%)
MIXED	93 (30.1%)

Table 24: Treatment of patients with incomplete clearance of genital warts

352/640(55%) patients were treated with topical 20% podophyllin cream and 288/640 patients(45%) were treated with 5% topical imiquimod cream (Table 20); 238/352 (67.6%) patients treated with podophyllin showed complete healing of lesion in comparison to 32.3% patients treated with 5% imiquimod showing complete response (Table 21). Table 22 shows time taken for complete healing of lesions with different modalities of treatment. We also attempted to interview every patient by telephone to find out if they had any clinical recurrences for which treatment was sought elsewhere (Table 23).

Overall recurrence was seen in 36.3% patients.

Drugs	Cured	Uncured	Total	Cure Rate
Imiquimod	93	195	288	32.3%
Podophyllin	238	114	352	67.65%
Total	331	309	640	-

Table 25: Statistical analysis of results

Statistical analysis of results was done (Table 25). On applying Fisher test to the results p value comes out to be 0.005, which is <0.05. Hence, the difference obtained was statistically significant and podophyllin 20% is better treatment of genital warts than imiquimod 5%.

DISCUSSION

Although non-life threatening, even low-risk HPV-type infections such as anogenital warts carry a substantial psychosocial and economic burden. Stressors include the

shame and embarrassment related to diagnosis as well as the inconvenience and discomfort of treatment and the fear of recurrence and transmission.

The literature suggests that anogenital warts are widespread and the prevalence depends on study methodology and higher rates may be reported from passive surveillance of patients. Results presented in this study are from treatment based surveillance at the referral centre and offer a first insight into HPV prevalence in a sample of population from Eastern UP that has not been previously considered and render these findings useful for further investigation in population-based studies from Eastern Uttar Pradesh to further elucidate the epidemiology of this disease in the respective population.

The association with other sexually transmitted diseases in 20.1% of cases is characteristic and underlines the importance of adequate screening. The retrospective nature of this study makes it difficult to obtain accurate information regarding the incubation period of warts.

The treatment of warts continues to be problematical. In my study podophyllin (20%) proved to be a much better treatment modality than imiquimod (5%) for the treatment of genital warts. As of yet there is little evidence to suggest that a single therapy can prove as the gold standard for treatment. We achieved complete remission in only 51.7% patients with the best possible treatment options available presently. Recurrence was observed in 36.3% patients, which is too high a variable. Current treatment options focus predominantly on removal of the external wart rather than attacking the underlying viral infection and have thus proven somewhat inadequate in achieving effective long-term results.

In the data reported by the general practitioners and in the data reported by the hospitals at national level, the cases of anogenital warts are seen more frequent in females. In contradiction, in our study from the Dermato-venereological Department at the tertiary centre, there was a majority of males. It is possible that the females with HPV infection have a bigger addressability to gynaecologists and also that they have asymptomatic infection. The HPV infection seems to be more frequent in the rural areas, but this situation is created by the unsafe sexual habits in these areas and perhaps lack of awareness among people in these areas.

Perhaps the low prevalence of infection seen through our study is also demonstrating the low frequency of patients with anogenital warts presenting for dermato-venereological consult. The untreated patients are at risk to develop complications and also are responsible for the spread of the infection. These cases represent a public health concern and HPV medical information (e.g. leaflets for patients, internet announcements) must be spread in the general population.

A reliable electronic system for reporting the HPV cases would permit also contact notification and would decrease the total number of infected persons.

The general costs involved in the management of HPV patients is high due to: (i) the recurrence of the disease, (ii) its complications (e.g. cervical cancer), (iii) asymptomatic viral shedding and (iv) increasing number of new cases.

The logical step to reduce these costs is to increase the awareness of the public on this disease. Our study proved that in the case of HPV infected patients, there is a big discrepancy between data collected by dermato-venereologists in tertiary referral unit in the Eastern UP area and the national data

records. Those reports need to use the same coding system. An improved electronic system for medical data collection may bring to light the real situation and would permit the identification of needed steps to reduce the incidence of the HPV infection and its comorbidities in the respective area. The high incidence of HPV infection in young persons living in rural areas, revealed by our study, supports the importance of awareness messages that must be transmitted with high priority to this group: firstly, the risk they have by engaging unprotected intercourse and secondly the benefits of the vaccination for both girls and boys.

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