

# Changing Trends in Genital Ulcer of Patients Attending Sexually Transmitted Infection (STI) Clinic in a Tertiary Care Centre of North Eastern India - A Retrospective Study of 10 Years

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## ABSTRACT

**Introduction:** Sexually transmitted genital ulcer disease (GUD) form a major part of the burden of sexually transmitted diseases and increase the chance of transmission of human immunodeficiency virus (HIV). Study objectives were to study the changing trends of the pattern of genital ulcers in patients who attended the STI clinic of a tertiary care centre of North eastern India in the last 10 years.

**Material and Methods:** Case records of patients who attended the STI clinic with genital ulcer from January 2006 to December 2015 were retrospectively studied. Chief complaint, duration, previous treatment history and clinical diagnosis was recorded.

**Results:** The incidence of genital ulcer disease has been declining, specially in the last two years. Majority of the cases were males and maximum number of cases belonged to the age group of 25-34. Number of cases of chancroid have declined (7.04% in 2006 to 2.69% in 2015) but the number of cases of syphilis (0.44% in 2006 to 10.57% in 2015) and genital herpes (2.20% in 2006 to 35.42% in 2015) have risen since 2011. Maximum number of cases of almost all the ulcerative STDs were accounted by the migrant population and daily wage labourers (34.11%) followed by drivers (25.25%), businessmen (14.04%), unemployed (10.86%), students (6.52%), service holders (5.18%) and housewives (4.01%).

**Conclusion:** The desired trend of decline in genital ulcer disease is probably due to improved educational and health facilities. However there is a lot to be done especially for the high risk groups.

**Keywords:** Genital Ulcer, STI Clinic, 10 Years

## INTRODUCTION

Genital ulcers are defined as breach in the continuity of the epithelium in the genital mucosa and/or skin.<sup>1</sup> due to a number of sexually transmitted infections and non STI dermatological diseases but the most important cause for genital ulcer is sexually transmitted infection. The chance of transmission of human immunodeficiency virus (HIV) is increased by sexually transmitted disease (STD) especially genital ulcer disease. The risk of acquisition of HIV is increased by 2-5 times in presence of chancroid, 3-9 times in presence of syphilis, 2 times in presence of genital herpes.<sup>2</sup> We studied the changing trends of genital ulcer disease in patients attending STI clinic in our hospital in the last 10 years. Sexually transmitted infections are a major public health problem in India and other developing contry. The pattern of different diseases differ according to the geographic

distribution, socio economic cultures and practices, differ from country to country. The people with high risk behaviour are more susceptible to aquire the infections like unprotected sex, multiple exposure, commercial sex workers, IV drug users. The prevalence of STI is more in developing countries compared to the developed ones. Most of the effected populations are the sexually active young population who are the major earning population of the country. Thus STI are indirectly hampering the major manpower population and causing more STI induced morbidity and decreasing the quality of life of the people.

## MATERIAL AND METHODS

It is a tertiary care based retrospective study of patients attending STI Clinic with genital ulcer (figure 1-3) to the tertiary care centre in North Eastern India. Case records of patients with genital ulcer attending STI clinic in a study period of 10 years from January 2006 to December 2015 were studied after taking Institutional ethical committee clearance. Non STI cases were excluded. Data of patients like age, gender, marital status and sexual history was noted. Chief complaint, duration, previous treatment history and clinical diagnosis was recorded. Diagnosis was based on available medical history, clinical evaluation, and appropriate laboratory investigations like gram stain, culture, tzanck smear, urethral smear, VDRL, ICTC, RPR, TPHA were done. In female genital ulcers mons pubis, labia majora and minora, urethral meatus, introitus, vagina, posterior commissure were included. In men glans, corona and sulcus, shaft, scrotum, perianal, urethral meatus were included. Smear was prepared from ulcer base and stained and cultured in appropriate stains and media. HSV-2 IgM was also done in required patients. Counselling was done to patients and partners, informed, notified and treatment was given. They were also counselled regarding high risk with unprotected sex, risk to aquire HIV and use of barrier

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**How to cite this article:** Bhaskar Gupta, Hemanta Kumar Nath, Vaswatee Madhab, Adhyatm Bhandari. Changing trends in genital ulcer of patients attending sexually transmitted infection (STI) clinic in a tertiary care centre of north eastern india - a retrospective study of 10 years. International Journal of Contemporary Medical Research 2017;4 (8):1712-1715.



Figure-1: Herpes genitalis

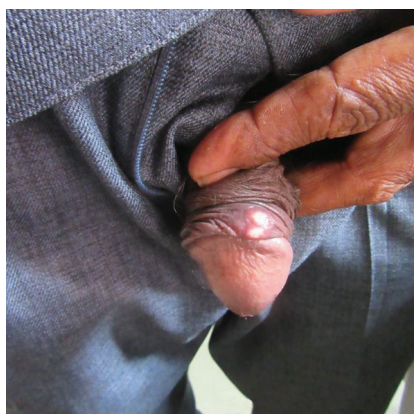


Figure-2: Primary chancre in an HIV positive patient.



Figure-3: Multiple superficial ulcers with polygonal margin characteristic of Herpes genitalis

Year	Genital Ulcer Cases	Total	Percentage of Cases
2006	103	227	45.37%
2007	97	243	39.91%
2008	86	198	43.43%
2009	111	247	44.93%
2010	119	252	47.22%
2011	115	237	48.52%
2012	96	236	40.67%
2013	79	169	46.74%
2014	73	202	36.13%
2015	66	223	29.59%

Table-1: Showing the proportion of cases of genital ulcer among attendees of STI clinic.

method by the counselor.

## STATISTICAL ANALYSIS

Microsoft office 2007 was used for the statistical analysis. Descriptive statistics like mean and percentages were used for the analysis.

## RESULTS

Table 1 shows the proportion of genital ulcer cases attending STI clinic during the study period in which it shows a declining trend of ulcerative STDs, especially in the last 2 years. Table 2 shows age and sex distribution of the patients in which males were more affected than females with the highest number of cases in the age group 25-34.

Table 3 shows the proportion of different STDs causing genital ulcers and their trends during the study period. Number of cases of chancroid have declined (7.04% in 2006 to 2.69% in 2015) since 2011. However, the number of cases of syphilis (0.44% in 2006 to 10.57% in 2015) and genital herpes (2.20% in 2006 to 35.42% in 2015) have risen since 2011. The maximum number of cases were accounted by chancroid in 2006. However with the declining trend of chancroid and rising trend of genital herpes, the latter accounted for the maximum number of cases in 2015. Table 4 shows the different occupations of the cases. Highest number of cases of almost all the ulcerative STDs were accounted by the migrant population and labourers (34.11%) followed by drivers (25.25%), businessmen (14.04%), unemployed (10.86%), students (6.52%), service holders (5.18%) and housewives (4.01%) as shown in Table 4.

## DISCUSSION

The number of ulcerative STD cases have decreased, especially in the last 2 years. This declining trend of genital ulcer diseases has also been seen in another study done in Northern India.<sup>3</sup> This may be due to improved medical facilities including better treatment of STIs. The declining trend may also reflect improved health education and mass awareness. Majority of the cases were males which is similar to findings in other studies.<sup>1,3</sup> This may be because males frequently move out of their homes in search of jobs and have more opportunities of exposure to STIs. The maximum number of cases were in the age group 25-34, which is the sexually active age group. This is in accordance with other studies but the lower age limit was higher in our study.<sup>4-12</sup> The maximum number of cases in our study were accounted by genital herpes which is in accordance with other studies.<sup>1,13</sup> The rising trend of cases of herpes genitalis along with a declining trend of cases of chancroid has also been observed in the study done in North India.<sup>3</sup> The majority of cases were migrant population, labourers and drivers which have also been found to be high risk groups for acquisition of STIs in another study.<sup>3</sup> This may be attributed to long periods of stay away from family. In a study done in New Delhi in a span of 14 years it was found that the number of syphilis cases have declined from 15% to 24%, earlier it was mostly males who came to hospitals but the trend has reversed and the number of female patients have increased later on during the study.

Age in years	2006		2007		2008		2009		2010		2011		2012		2013		2014		2015											
	M	F	M	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T								
0-14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1							
15-24	11	0	11	22	2	24	10	3	13	25	2	27	21	1	22	11	3	14	4	3	7	14	5	19	5	1	6	13	10	23
25-34	11	0	11	18	0	18	19	1	20	32	3	35	19	0	19	33	3	36	17	1	18	41	0	41	17	2	19	31	7	38
35-44	6	1	7	9	1	10	7	1	8	10	2	12	11	0	11	13	0	13	8	1	9	14	1	15	11	0	11	17	13	30
≥45	1	0	1	4	1	5	7	1	8	4	0	4	3	0	3	1	0	1	3	0	3	5	2	7	6	0	6	9	1	10

Table-2: Showing the age and sex distribution of patients

STD	2006		2007		2008		2009		2010		2011		2012		2013		2014		2015											
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T									
Chancroid	11	5	16	12	3	15	13	5	18	14	1	15	10	0	10	3	0	3	2	0	2	2	2	2	0	2	2	0	2	
Syphilis	1	0	1	3	0	3	0	0	3	2	5	12	8	20	13	8	21	19	2	21	18	5	23	16	8	24	79			
Genitalherpes	5	0	5	15	0	15	11	1	12	17	1	18	8	1	9	41	4	45	31	9	40	36	6	42	49	13	62	51	28	79
LGV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Genitalscabies	3	0	3	21	0	21	9	0	9	2	0	2	0	9	2	0	2	0	0	0	0	3	1	4	3	1	4	5	1	6
Total	20	5	25	51	3	54	36	6	42	34	2	36	30	3	33	58	12	70	46	17	63	57	9	66	72	19	91	77	38	115

Table-3: Shows the various STDs causing genital ulcer in the last 10 years.

STD	Students		Housewives		Serviceholders		Drivers		Businessmen		Unemployed		Migrantpopulation-andlabourers					
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T			
Chancr-oid	14	3	17	5	0	5	21	0	21	11	0	11	15	3	18	8	4	12
Syphilis	13	1	14	4	2	5	25	0	25	3	2	5	18	7	25	26	17	43
Genitalherpes	5	0	5	15	1	12	93	0	93	48	15	96	10	8	18	97	24	121
LGV	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Genitalscabies	3	0	3	0	0	9	12	0	12	5	0	5	4	0	4	24	3	27
Total	35	4	39	24	3	31	151	0	151	67	17	84	47	18	65	156	48	204

Table-4: Showing the occupation of the cases

Cases of primary syphilis have decreased from 52% to 26%, cases of secondary syphilis have increased from 39% to 46%, early latent syphilis cases have increased from 7.5% to 29%. The cases of herpes genitalis have increased from 5% to 22%, both sexes were involved and were in increasing trend. The cases of chancroid, have decreased in number during the period of study. In another study done in Gujrat it was observed that the maximum cases were of herpes genitalis and chancroid. Uncircumcised men were at higher risk. Males were more than females and the major effected group was 19-30 years age. 60% of the cases were heterosexuals, 24% were homosexuals, 9% were bisexual. Herpes (75%), chancroid (12%), syphilis (2.6%), mixed (6%) were noted. The number of cases have shifted from bacterial to viral etiology during the course of study. In a study in Andhra Pradesh, it was observed that compared to the genital ulcer diseases in 60's which were mostly bacterial like syphilis, chancroid and less common causes were viral like herpes genitalis. The trend has changed to viral being more common than bacterial and herpes genitalis becoming the commonest cause of genital ulcer disease. In a study done in New Delhi in 2013, it was found that majority of patients were between 15-34 years age with 66.7% males and 33.3% females, only two minors in the study. The study group consisted of 67.8% married persons and 85.5% literate. Among the female patients most of them were

homemakers while among the males there were office goers, labourers and students. The commonest GUD encountered was herpes simplex virus 78.9% clinically and 92.2% aetiologically.

## CONCLUSION

The desired trend of decline in genital ulcer disease is probably due to improved educational and health facilities. However there is a lot to be done especially for the high risk groups. It is evident from the study that men were more effected than females probably due to more sexual activity, higher number of sexual partners, frequent change in partners and more exposure to commercial sex workers. Less number of female cases were reported because of the social, cultural, religious and economic barriers. They were less bothered about their disease and also lack of knowledge and education. All cases could not be traced due to limited resources, technical difficulty and cost of diagnosis. Most of the patients opt to private practitioners and expecting more confidentiality. However the number of female patients have increase in the recent years because of better education opportunities, more knowledge and easy accessibility to mass media and awareness programmes initiated by different organisations.

## REFERENCES

1. Mehta B. A clinico-epidemiological study of ulcerative sexually transmitted diseases with human immunodeficiency virus status. *Indian J Sex Transm Dis* 2014;35:59-61.
2. Kar HK. Interaction of Human Immunodeficiency virus and sexually transmitted diseases. In: Sharma VK, editor. *Sexually Transmitted Diseases and HIV/AIDS*, 2nd ed. New Delhi: Viva Books; 2009.p.220-35.
3. Ray K, Bala M, Gupta SM, Khunger N, Puri P, Muralidhar S, Kumar J. Changing trends in sexually transmitted infections at a Regional STD Centre in north India. *Indian J Med Res* 2006;124:559-68.
4. Jaiswal A K, Banerjee S, Matety A R, Grover S. Changing trends in sexually transmitted diseases in North Eastern India. *Indian J Dermatol Venereol Leprol* 2002;68:65-6.
5. Reddy BSN, Garg BR, Rao MV. An appraisal of trends in sexually transmitted disease. *Indian J Sex Transm Dis* 1993;14:1-4.
6. Jaiswal AK, Bhusan B. Pattern of STDs in North Eastern India. *Indian J Sex Transm Dis* 1994;15:19-20.
7. Krishnamurthy VR, Ramachandran V. STD trends in Chengolpattu Hospital. *Indian J Dermatol Venereol Leprol* 1996;62:3-12.
8. Gupta SK, Jain VK, Aggarwal K. Trends of STD at Rohtak. *Indian J Sex Transm Dis* 1997;18:2-3.
9. Gupta CM, Sayal SK, Sanghi S. Pattern of STDs in the Armed Forces. *MJAFI* 1999;55:328-330.
10. HIV infection current status and future research plan. *Bulletin of Indian Council of Med Res* 1991;21:131.
11. Kumar B, Sharma VK, Malhotro S. Pattern of sexually transmitted diseases in Chandigarh. *Indian J Dermatol Venereol Leprol* 1987;53:286-291.
12. Ranganoyakulu B, Ravi Kumar GP, Bhaskar GV, et

al. Pattern of sexually transmitted diseases at Kurnool. *Indian J Sex Transm Dis* 1998;117-121.

13. Muralidhar S, Talwar R, Kumar DA, Kumar J, Bala M, Khan N, et al. Genital ulcer disease: How worrisome is it today. A status report from New Delhi, India? *J Sex Transm Dis*. 2013;8.

**Source of Support:** Nil; **Conflict of Interest:** None

**Submitted:** 24-07-2017; **Accepted:** 28-08-2017; **Published:** 08-09-2017