

# A study of 113 cases of genital ulcerative disease and urethral discharge syndrome with validation of syndromic management of sexually transmitted diseases

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## Abstract

**Aims:** To validate syndromic management of cases having genital ulcerative disease (GUD) and urethral discharge syndrome (UDS). **Materials and Methods:** A study of 113 cases of GUD and UDS was carried out in the Department of Skin and VD from March 2011 to August 2012. All cases having history and clinical evidence suggestive of GUD and UDS were included in the study. **Results:** According to syndromic diagnosis, GUD herpetic syndrome was the most common 71 (62.27%), followed by GUD non-herpetic syndrome 25 (21.89%) and UDS 17 (14.91%). Out of 71 cases clinically diagnosed as GUD herpetic, 16 (22.53%) were validated by immunoglobulin M (IgM) anti herpes simplex virus-2 (HSV) serology, 14 (19.71%) by Tzanck smear and 3 (4.22%) by both. 24 (33.80%) were Reactive plasma Reagin (RPR) (<1:8) reactive and treponema pallidum haem-agglutination positive. Out of total 25 clinically diagnosed GUD non herpetic cases, 22 (88%) were validated by laboratory tests Out of 17 cases of UDS, 15 (88%) were validated by smear. **Conclusion:** Sensitivity and specificity of clinically diagnosed syndrome is not so high particularly for GUD herpetic syndrome Continuous monitoring of diagnostic component of syndromic approach is key to success of STD control program.

**Key words:** Genital ulcer disease, syndromic management, urethral discharge syndrome, validation

## INTRODUCTION

Sexually transmitted diseases (STDs) cause significant morbidity, mortality and stigma; as well as contribute greatly to increasing health care expenditures.

The pandemic of HIV and STDs has persuaded the health care system to develop an innovation in their approach to tackle this problem leading to

the development of the “syndromic approach” by World Health Organization. The syndromic approach was primarily based on treating the patient on the basis of symptoms or syndromes. Further, the need to facilitate the rapid achievement of the projected objectives led to the development of “enhanced syndromic management” for control of not only STDs, but essentially HIV control. The newer guidelines of national acquired immunodeficiency syndrome (AIDS) control organization (NACO) suggest that simple laboratory tests should be done in all cases as and when available.

STDs are a public health problem. The cornerstone of HIV/AIDS control is STD control. Simplified STD case management in terms of syndromic approach is promoted so that a primary care physician can treat

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such cases with the help of structured training and use of flow charts and medicine kits.

The aim of the present study was to know the pattern, demographic profile and HIV seropositivity status of genital ulcerative disease (GUD) and urethral discharge syndrome (UDS) and to validate them through laboratory tests.

## MATERIALS AND METHODS

The present study was carried out in the department of Skin and VD at a tertiary care hospital from March 2011 to August 2012.

The cases attending out-patient department with history and symptoms suggestive of STD were examined. All cases having clinical evidence of GUD and UDS were included in the study.

Each patient was subjected to a detailed history regarding the educational status, occupation and marital status. The detailed history of sexual exposure, sexual partners and sexual orientations were noted.

The patients were subjected to thorough clinical examination. External genitalia, perianal region and oral mucosa were inspected. Genital lesions and inguinal lymph nodes were palpated and findings were recorded. All patients were classified according to NACO guidelines of enhanced syndromic management. All patients having clinical signs and symptoms of GUD and UDS were investigated as per NACO guidelines.

Gram stain was done to identify *Neisseriae Gonococcus*, *Calymmatobacterium granulomatis* and *Haemophilus ducreyi*, Tzanck smear was done for multi nucleated giant cells (MNGC) in herpes genitalis and culture for gonococci was carried out in chocolate agar.

Immunoglobulin M (IgM) anti-herpes simplex virus (HSV)-2 for herpes genitalis, venereal disease research laboratory (VDRL) and treponema palidum haem-agglutination (TPHA) assay for syphilis and 4<sup>th</sup> generation enzyme linked immuno sorbent assay for HIV were done. Diagnosis was based on the clinical presentation (syndromic diagnosis) and confirmed by relevant investigations.

Kit 1(Tab Azithromycin 1gm OD stat + Tab. Cefixime 400 mg OD Stat) was given to patients having UDS. Kit 3(Inj. Benzathine penicillin (2.4 MU) - 1 vial Tab. Azithromycin (1 gm)-Single dose) was given to patients with Genital

Ulcer-Non Herpetic. Kit 5(Tab. Acyclovir 400 mg TDS for 7 days) was given to patients with Genital Ulcer - Herpetic.

Patients were informed and counselled about STD, risks factors for STD and HIV, treatment and follow-up. They were also educated about safe sex practices and advised about consistent and proper use of condoms. They were given condoms and demonstrated how to use it. They were asked to come for follow-up weekly until cured. Partners were examined, investigated and treated in the same way.

## RESULTS

In the present study, highest incidence of STDs was found in the age group of 20-40 years [Table 1]. Maximum numbers of cases were educated up to primary level, i.e., 42.70% males and 70.83% females. Maximum numbers of male STD cases were laborers (31.86%) and drivers (29.21%). The laborers include people working in hotel, factory and shops. Maximum number of female STD cases were housewives (83.33%).

In males, 34 (38.20%) had exposure history to female sex workers (FSW). In females, maximum numbers of cases 12 (50%) had a history of contact with spouse [Table 2] only. Even after ample motivation 20 (17.70%) cases refused to give exposure history.

Out of total 113 cases, GUD herpetic syndrome [Figure 1] was the most common in 71 (62.83%), followed by GUD non-herpetic syndrome [Figure 2] seen in 25 (22.12%) and UDS in 17 (15.04%) [Table 3]. Herpes progonitalis with condyloma

**Table 1: Demographic profile (n=113)**

Age	Male (%)	Female (%)	Total (%)
15-20 years	11 (12.36)	3 (12.50)	14 (12.39)
21-30 years	33 (71.07)	11 (44.83)	44 (38.39)
31-40 years	29 (32.58)	6 (25.00)	35 (30.97)
41-70 years	16 (17.98)	4 (16.67)	20 (17.70)
Total (n=113)	89 (78.76)	24 (21.23)	113 (100)

**Table 2: Pattern of sexual contact**

Pattern of exposure	Male (n=89) (%)	Female (n=24) (%)	Total (n=113) (%)
FSW	34 (38.20)	-	34 (30.09)
MSM	3 (3.37)	-	3 (2.65)
Known person	21 (23.60)	7 (29.17)	28 (24.78)
Unknown person	5 (5.62)	-	5 (4.42)
Spouse	11 (12.36)	12 (50.00)	23 (20.35)
Not given history	15 (16.85)	5 (2.83)	20 (17.70)
Total	89 (100)	24 (100)	113 (100)

FSW=Female sex worker; MSM=Male sex with male

acuminata was seen in 5 cases, herpes progenitalis with molluscum in 4, syphilis with condyloma accuminata (CA) and syphilis with molloscum contagiosum were seen in 2 cases each. Mixed infection was not observed in cases having UDS.

Out of 17 cases of UDS [Figure 3], purulent discharge suggestive of gonorrhoea was seen in 14 (82.34%) cases and all were validated by gram stain for gonococci. Mucoid discharge suggestive of non gonococcal urethritis was seen in 3 cases (17.64%) [Table 4], 1 case was found to be smear positive for gonococcus and in remaining 2 cases laboratory confirmation was negative.

There were 96 cases of GUD which include 71 herpetic cases and 25 non herpetic cases. Clinical diagnosis of GUD herpetic and non-herpetic was validated by herpes serology (IgM anti HSV-2), tzanck smear, RPR, TPHA, giemsa stain and gram stain respectively [Table 4].

Out of 71 cases clinically diagnosed as herpes progenitalis, 16 (22.53%) were confirmed by herpes serology (IgM anti HSV-2), 14 (19.71%) by tzanck smear for (MNGC) and 3 (4.22%) cases were positive for both herpes serology and Tzanck smear. Thus 33 (46.47%) out of 71 cases were validated by laboratory tests. Twenty four cases clinically diagnosed as herpes progenitalis were not confirmed by serology/smear for MNGC but were VDRL reactive with low titer (<1:8) and TPHA positive.

**Table 3: Profile of STD syndrome (n=113)**

Syndrome	Male (%)	Female (%)	In present study (n=113) (%)	Vora <i>et al.</i> study (n=125) (%)
UD	17 (19.10)	-	17 (15.04)	22 (17.16)
GUD herpetic	56 (62.92)	15 (62.50)	71 (62.83)	49 (39.2)
GUD non-herpetic	16 (17.98)	9 (37.50)	25 (22.12)	54 (43.2)
Total	89 (78.76)	24 (21.23)	113 (100)	125 (100)

STD=Sexually transmitted disease; UD=Urethral discharge; GUD=Genital ulcerative disease

**Table 4: Lab diagnosis (validation) of urethral discharge syndrome and genital ulcerative disease**

Syndromic diagnosis	Clinical diagnosis	Laboratory test for validation (%)					
		Gram stain for gonococcal urethritis		Urethral smear for non-gonococca urethritis			
		A	B	C	D	C+D	E
Urethral discharge syndrome n=17 (100%)	Gonococcal urethritis (14)	14 (100)				-	
	Non-gonococcal urethritis (3)	1 (33.33)				2 (66.67)	
GUD Herpetic (n=71)	Herpes progenitalis (n=71)	24 (33.80), titer <1:8	24 (33.80)	16 (22.53)	14 (19.71)	3 (4.22)	-
GUD Non Herpetic (n=25)	Syphilis (n=20)	19 (95), titer >1:8	19 (95)	-	-	-	-
	Chancroid (n=3)	1 (33.33) titer <1:8	1 (33.33)	-	-	-	2 (66.67)
	Donovanosis (n=2)	1 (50) titer <1:8	1 (50)	-	-	-	1 (50)

A=VDRL reactive; B=TPHA positive; C=Only anti-HSV-2 (IgM) positive; D=Only Tzanck smear positive for (MNGC); E=Gram smear; HSV=Herpes simplex virus-2; MNGC=Multi nucleated giant cell; VDRL=Venereal disease research laboratory; TPHA=Treponema pallidum haem-agglutination

Out of 25 cases of GUD non-herpetic, 20 (80%) cases were diagnosed clinically as primary syphilis, 3 (12%) cases as chancroid and 2 (8%) cases donovanosis clinically

Out of 20 cases diagnosed clinically as syphilis, 19 (95%) were VDRL reactive (>1:8), confirmed by TPHA test. Out of 3 cases of chancroid diagnosed clinically, 2 (66.67%) were validated by gram smear for *H. Ducreyi*, and one was VDRL and TPHA reactive. One out of two cases of clinically diagnosed donovanosis was confirmed by gram smear for donovan bodies and the other case was VDRL and TPHA reactive. Thus 22 (88%) out of 25 cases were validated by laboratory tests.

The prevalence of HIV in the present study was 32 (28.32%) out of which, 26 (81.25%) were males and 6 (18.75%) were females. Out of 32 HIV positive cases, 22 (68.75%) cases presented with GUD herpetic, followed by GUD non herpetic 7 (21.75%) and 3 (9.38%) cases were of UDS [Figure 3].

## DISCUSSION

Sharma and Khandpur<sup>[1]</sup> showed that during the 1960s and 1970s, bacterial infections, i.e., syphilis, chancroid and gonorrhoea were the most common STDs and viral infections caused by HSV and human papilloma virus were very rare. However, now there has been a rise in viral and chlamydial infections with a drastic fall in incidence of bacterial STDs.<sup>[2,3]</sup>

Jain *et al.*,<sup>[4]</sup> studied 1542 cases where males (83.79%) outnumbered females (16.21%) and male to female ratio was 5.17:1. 68.5% of cases belong to the age group of 20-40 years.

Proportion of female STD cases (21.23%) were more in the present study when compared to Jain *et al.*,<sup>[4]</sup> study.

Though STDs are equally prevalent in females, their attendance in STD clinic is poor, probably



because many sexually transmitted infections (STIs) are asymptomatic in females and there is lack of knowledge about STI/reproductive tract infections and their consequences. They frequently consult the female health care providers or gynecologists instead of visiting STD clinics. Female literacy rate has got impact on reproductive as well as sexual behavior. Less attendance of females in STD clinic is a big obstacle in STD control. The highest incidences of STDs were found in the age group of 20-40 years, showing the high prevalence of STD in young adults. The maximum cases were educated up to primary level and belonged to labor class. These cases were less likely to have knowledge regarding transmission and prevention of STDs.

Majority of male cases gave a history of exposure to FSWs 38.20% and known partners 23.60%. Amongst females, 50.00% had sexual contact with their husbands, suggesting marital sex as common mode of STD transmission in females.

In a study conducted by Vora *et al.*,<sup>[5]</sup> study, GUD herpetic syndrome was found in 49 (39.2%), GUD non herpetic syndrome in 54 (43.2%), UDS in 22 cases (17.16%) out of total of 125 cases.

Herpes serology was found positive in 26.76% cases in the present study, probably because the majority of cases were of recurrent herpes progenitalis and serology was done only for IgM anti HSV-2, which is the indicator of recent infection. (IgG anti HSV-2 was not available in our hospital).

Herpes progenitalis with VDRL reactivity in low titer (<1:8) and TPHA positivity may suggest past infection with syphilis, these cases needed further clinical and serological follow-up.

Out of the 71 cases who received treatment for GUD Herpetic, 33 (46.47%) were validated for herpes by lab diagnosis. 24 (33.80%) cases were found to be VDRL positive. Thus these cases would have been left untreated for Syphilis if the enhanced syndromic approach (which includes the use of available laboratory tests) had not been used. Also 38 (53.52%) cases would have been probably over treated for Herpes. In case of GUD Non-Herpetic, the discrepancy in not using the laboratory diagnosis is less as compared to GUD Herpetic. 2 cases of Donovanosis would remain undertreated if smear examination was not carried out.

Sensitivity and specificity of clinically diagnosed syndrome is not so high particularly for GUD herpetic syndrome. Patient treated with syndromic approach

may be exposed to multiple drugs with potential for drug resistance and adverse drug reaction.

Syndromic approach supported by proper laboratory back up at least at a tertiary care center is the basis of enhanced syndromic case management. Incorporation of laboratory component at all levels



Figure 1: Herpes progenitalis (genital ulcerative disease herpetic)



Figure 2: Genital ulcerative disease (genital ulcerative disease Nonherpetic)



Figure 3: Urethral discharge syndrome

may go a long way in making syndromic approach more precise.<sup>[6,7]</sup> If it is not feasible to establish laboratory facility at a primary/secondary level, the samples can be transported to referral center; even this can be done periodically.

Many other factors play a part in the successful control of STIs, including availability of effective and affordable drugs, accessible and acceptable health services, training and supervision of health care workers and behavioral interventions to prevent new infections by promoting safer sex.<sup>[8,9]</sup>

Continuous monitoring of diagnostic component of syndromic approach is key to success of STD control program.

## REFERENCES

1. Sharma VK, Khandpur S. Changing patterns of sexually transmitted infections in India. *Natl Med J India* 2004;17:310-9.
2. Narayanan B. A retrospective study of the pattern of sexually transmitted diseases during a ten-year period. *Indian J Dermatol Venereol Leprol* 2005;71:333-7.
3. Thappa DM, Singh S, Singh A. HIV infection and sexually transmitted diseases in a referral STD centre in south India. *Sex Transm Infect* 1999;75:191.
4. Jain VK, Dayal S, Aggarwal K, Jain S. Changing trends of sexually transmitted diseases at Rohtak. *Indian J Sex Transm Dis* 2008;29:23-5.
5. Vora R, Anjaneyan G, Doctor C, Gupta R. Clinico-epidemiological study of sexually transmitted infections in males at a rural-based tertiary care center. *Indian J Sex Transm Dis* 2011;32:86-9.
6. NACO. Department of AIDS Control-Ministry of Health and Family Welfare. Current epidemiological situations of HIV/AIDS. Annual Report 2009-2010. Available from: [http://www.nacoonline.org/upload/AR%202009-10/NACO\\_AR\\_English%20corrected.pdf](http://www.nacoonline.org/upload/AR%202009-10/NACO_AR_English%20corrected.pdf). 2010-2011.
7. Ray K, Muralidhar S, Bala M, Kumari M, Salhan S, Gupta SM, *et al.* Comparative study of syndromic and etiological diagnosis of reproductive tract infections/sexually transmitted infections in women in Delhi. *Int J Infect Dis* 2009;13:e352-9.
8. Buvé A, Changalucha J, Mayaud P, Gavyole A, Mugeye K, Todd J, *et al.* How many patients with a sexually transmitted infection are cured by health services? A study from Mwanza region, Tanzania. *Trop Med Int Health* 2001;6:971-9.
9. UNAIDS/WHO. Sexually Transmitted Diseases: Policies and Principles for Prevention and Care. Geneva: UNAIDS; 1999. p. 11E. UNAIDS/01.

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