

Original Research Article

Syphilis on the rise-a retrospective study at a tertiary care hospital in Northeast India

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Received: 19 May 2021

Accepted: 09 June 2021

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ABSTRACT

Background: Syphilis is an important sexually transmitted disease known for quite a long time. Its recognition and efficient treatment have become all the more necessary in the era of HIV epidemic in many clinical situations.

Methods: A retrospective observational study of 7 years (January 2013 to December 2019) in 43 patients of confirmed syphilis attending regional institute of medical sciences (RIMS), Imphal.

Results: During 7-year study period a sharp rise in syphilis cases were present from 2018 till the end of the study. Out of 43 patients, 39 were males. The most common age group was 25-40 years. Half of them were married. Maximum were heterosexuals and only 8 were homosexuals. Premarital and extra marital exposures were seen in 18 and 3 patients respectively. Patients presented in different forms-primary (48.6%), latent (25.7%) and secondary syphilis (22.8%). No cases of congenital syphilis and neurosyphilis were seen. VDRL titres ranged from 1:4 to 1:32. Six patients had HIV co-infection. No atypical presentations were seen.

Conclusions: Increasing cases of syphilis have been observed in recent years. Syphilis screening and prompt treatment amongst risk groups have become crucial along with proper surveillance and public health measures to prevent disease transmission.

Keywords: Syphilis, Latent, Sexually transmitted infections, Venereal disease research laboratory, *Treponema pallidum* haemagglutination test, Men who have sex with men

INTRODUCTION

Sexually transmitted infections (STIs) are given paramount importance in the community. Their epidemiological profile varies from one region to another, depending upon ethnographic, demographic, socio-economic and health factors.¹ The clinical pattern is also a result of the interaction among pathogens, the behaviours that transmit them and the effectiveness of preventive and control measures.¹

Syphilis is a sexually and vertically transmitted infection caused by the spirochaete *Treponema pallidum* sub-

species pallidum (order Spirochaetales).² The primary stage of syphilis may be manifested clinically as a solitary chancre, indurated and ulcerative, with a clean base, which typically appears at the site of contact with the sex partner's infectious lesion.³ Secondary stage is initiated by bacteraemia leading to constitutional symptoms, mucocutaneous lesions and generalized lymphadenopathy. It is followed by a latent phase where patients are asymptomatic but serologically reactive. If left untreated, patient develops systemic manifestations due to involvement of brain, heart, blood vessels, etc (tertiary stage).

METHODS

A retrospective study was conducted in 43 patients diagnosed with syphilis in regional institute of medical sciences, Imphal, Manipur from January 2013 to December 2019. Clinical records of the patients consisting of history, examination and laboratory reports including venereal disease research laboratory test (VDRL), hepatitis and human immunodeficiency virus (HIV) were analysed irrespective of their disease stage. A VDRL titre of more than 1:8 was taken as positive and confirmed with *Treponema pallidum* haemagglutination test (TPHA).

RESULTS

Out of 1,690 STD patients collected during the 7-year study period, 43 cases (2.5%) were syphilis. A sharp unexpected surge of syphilis cases was noticed from 2018 which continued till the end of study period.

Year-wise distribution of cases is shown (Figure 1).

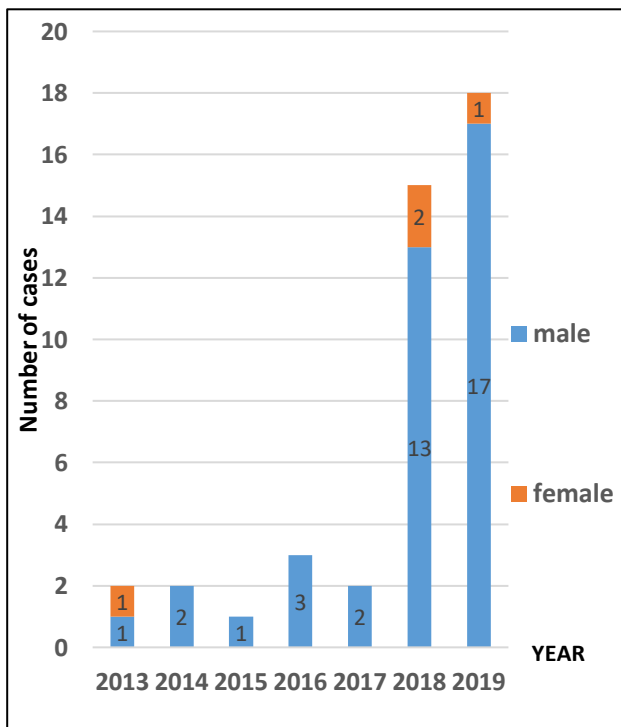


Figure 1: Number of syphilis cases per year (2013-19).

Most of them were young adults belonging to the age group of 25-40 years with male predominance (n=36). Half of them were married. Premarital and extra marital exposure history was present in 22 and 4 patients respectively. Eight of them were homosexuals.

Thirty seven percent of patients presented each in primary (Figure 2 A and B) and latent stage and 26% in secondary stage [Figure 3 (A and B) and 4] while none of them presented in tertiary stage.

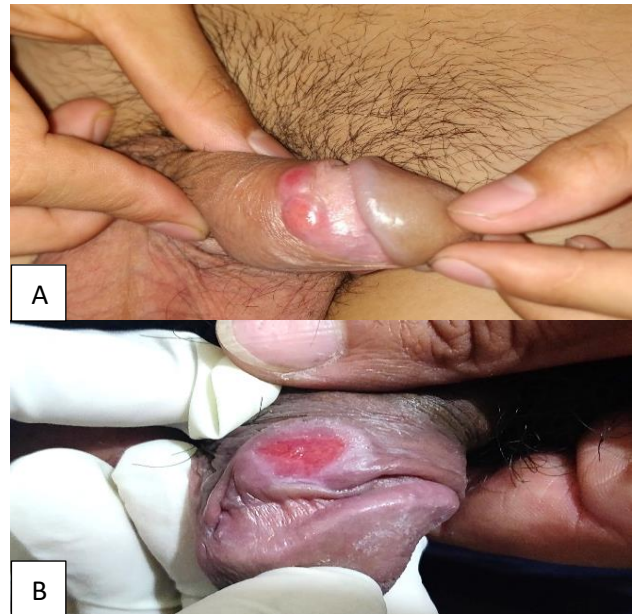


Figure 2 (A and B): Primary chancre of primary syphilis.



Figure 3 (A and B): Lesions of secondary syphilis on palms and soles.



Figure 4: Lesions of secondary syphilis on trunk.

Of the 43 patients, 15 had co-infection with other STI, among them HIV was the highest one with 6 patients. Genital wart was the second most common co-infection seen with syphilis. Patients having syphilis with HIV, genital wart and herpes genitalis co-infection had homosexuality and premarital exposure as the associated risk factors.

Table 1 shows co-infections with associated risk factors.

Table 1: Co-infections with associated risk factors.

Co-infections	No. of patients	Associated risk factors
HIV	6	EME*, CSW†-2
		MSM‡-1
		Needle prick-1
Genital wart	2	PME§, MSM
Gonococcal urethritis	1	PME
Herpes genitalis	1	PME, MSM
HIV + Hepatitis C	1	IVDU¶, EME
HIV + Candidal balanoposthitis	1	PME
HIV + Tubercular lymphadenopathy	1	PME
Hepatitis B + Hepatitis C	1	None
Hepatitis C + Genital wart	1	PME

*Extramarital exposure; †Commercial sex worker; ‡Men who have sex with men; §pre-marital exposure; ¶Intravenous drug users

DISCUSSION

Globally, almost one million new cases of curable sexually transmitted infection are acquired each day.⁴ In India, the prevalence of STIs such as syphilis, gonorrhoea and chlamydia varies from 0-3.9%.⁵ The Indian national program data indicated steadily declining prevalence of syphilis among patients with STIs, pregnant women and high-risk groups.⁶ The national HIV program data revealed that, the prevalence of syphilis among patients attending STI clinics declined from 0.5% in 2014-2015 to 0.4% in 2016-2017.^{6,7}

An earlier study in RIMS hospital during the period 1996-2000 reported syphilis in 6.2% of STD patients.⁸ However, over the next 15 years a steady decline in cases was seen followed by sudden spurt of cases in the last two years as observed in this study (Figure 1). Similar resurgence of cases has also been reported by Ray et al and Schumacher et al.^{9,10}

Co-infection with HIV makes situation even more grim. Syphilitic lesions increase the risk of acquiring HIV infection and alter the course as well as response to treatment. Manipur has high prevalence of HIV

infections. In this study also, 6 patients had HIV co-infections. Moreover, incidence of serious complications of syphilis such as neurosyphilis in HIV infected individuals is known to be high even when treated with recommended dosage.¹¹ The increased incidence of HIV in homosexual and heterosexual individuals afflicted with STD, including syphilis is also epidemiologically documented in numerous studies.^{12,13}

The rising trend of syphilis in recent years can be attributed to the fact that norms around premarital sex as well as the same sex behaviours have become more liberal.¹⁴ Better STD surveillance system and improved case detection rates can also be contributing factors. The inherent difficulties associated with human behavioural change and associated stigma with STIs make reversing the current syphilis trend a challenging public health endeavour.

Sexually active unmarried youth are more likely to engage in high-risk sexual behaviours. There is similar risk in married individuals with extra marital exposure. Rising number of MSM individuals is also alarming as they indulge in more high risk behaviours and condom less anal intercourse has been identified as one of the greatest risk factors for STI acquisition among them.¹⁵ Syphilis continues to persist among MSM and other groups who tend to have multiple sex partners.¹⁶ Bisexual behaviour being more common than isolated homosexuality, makes MSM a bridge population in spreading HIV and STI.¹⁵ Because syphilitic lesions increase risk for acquiring and transmitting HIV infection, syphilis infections among MSM are of particular concern.^{17,18} Vulnerabilities of both of these population should be addressed.

The study also highlights increase in the number of cases presenting in latent stage. Unlike the first two stages, latent one is asymptomatic making detection and further management difficult. Thus, infected patients will continue to spread the disease. Recent inclusion of VDRL testing as a part of serological screening before blood donation and surgical interventions aided in identifying those in latent stage, making it one of the reasons for increase in number of such cases. Improper or incomplete treatment of secondary syphilis may be another reason for rise in latent syphilis.^{19,20}

The retrospective nature of the study caused limited assessment of certain parameters like risk evaluation. Population-based community studies with longer study period may show more comprehensive epidemiological data.

CONCLUSION

Syphilis is characterised by great chronicity and quiet latency, which influence the obstetric outcome and result in several systemic complications. In a country with a large population like ours, STD control programs need to

be strengthened more with special emphasis on syphilis surveillance. Syphilis screening and prompt treatment amongst risk groups and particularly in patients with HIV have become crucial as effective and affordable treatment is available.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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Cite this article as: Thokchom N, Meka B, Kongbam L, Mrudula S, Salam E, Ananto T et al. Syphilis on the rise-a retrospective study at a tertiary care hospital in Northeast India. *Int J Res Dermatol* 2021;7:543-6.