Seroprevalence of syphilis by venereal disease research laboratory test and biological false positive reactions in different patient populations: Is it alarming? Our experience from a tertiary care center in India, 2020;41:43-46

Sir,

We read with great interest the article "Seroprevalence of syphilis by venereal disease research laboratory (VDRL) test and biological false-positive (BFP) reactions in different patient populations: Is it alarming? Our experience from a tertiary care center in India" by Patwardhan *et al*. underscoring the association between seroprevalence of syphilis by VDRL as stand-alone test and BFP.[1] The authors have screened 57,308 serum samples retrospectively and have noted 1.27% seroprevalence by VDRL, of which 0.14% were BFP. This is a huge sample size and could have fathomed with more lucidity a decisive approach in few tricky cases where there is discordance between treponemal and nontreponemal results. The authors have further concluded that the rate of BFP was as high as 0.14%, being higher in males (0.44%). However, in the absence of clinical details of these patients namely existing comorbidities, infections like HIV that can influence the titer; this observation cannot be simulated onto the whole population. The authors have compared these figures with studies from the West, which is further specious as many endemic infections in the Indian population can lead to the persistence of low reactive VDRL titers. Furthermore, the authors have not stated the stage of illness and ongoing antimicrobial therapy, which is of utmost significance in labeling the titer <1:8 as BFP. The same is in congruence with the study conducted by Bala *et al*., who found that 86.76% of the low reactive sera was found to be positive by Treponemal pallidum haemagglutination test (TPHA).[2] The gender bias in the study cannot be ruled out, owing to the variance in the total number of males and females as well as distinct clinical sets of patients included in the study. The authors have included all the antenatal women, leaving the statistically significant difference irrelevant. Similarly, the authors have inferred that BFP correlated to low VDRL titers <1:8, which is in concordance with textbook guidelines that state that titers >1:8 has to be considered significant; however, neither all the low reactive sera (<1:8) are always noninfectious nor all the positive TPHA results are infectious all the time.[3] Consequently, in the absence of TPHA cut-offs, the results remain indiscernible as TPHA, being a treponemal test, remains positive throughout life. Moreover, the authors have not shown the results of TPHA in comparison with low (<1:8) and highly reactive (>1:8) VDRL sera discretely, leaving the imperative question of discordant low reactive VDRL with positive TPHA and vice-versa, unanswered. Besides, there are few typographical errors in figures (151/2127 [or 149/2127;] 214/5151 [or 215/5151]) and even in expansion of the term VDRL (misspelled as venereal disease reference laboratory). Moreover, there are few mathematical mismatches noted in Tables 2 and 3 in regard to total positives of VDRL, TPHA, and BFP reactions [Antenatal care (ANC), total females in Table 2 and all columns of Table 3], the reasons for which have not been explained by the authors.

The frightening figures reached by the imaginary theoretical calculations in the study are alarming but have to be ignored, as this is not the reality. The recommendations by the authors and considering the low reactive VDRL sera as BFP might not always be the right approach in the management of these patients, giving a false sense of well-being and a false-negative report to a symptomatic patient since in resource-limited laboratories, it might not be possible to direct both treponemal and nontreponemal tests for pertinent diagnosis. Moreover, the titer of false-positive VDRL which is usually low (<1:8) can also be extremely high in certain cases, rendering the utility of quantitative VDRL titer inappropriate in differentiating a false-positive result from the actual infection. This diagnostic dilemma further underlines the significance of the correlation of laboratory results with the clinical history of the patient.

This study that could have been more productive is left with less significance now, in the absence of cut-off figures for the TPHA test and inability to discern the meticulous situations of discordant results between treponemal and nontreponemal tests.

Financial support and sponsorship
Nil.

Conflicts of interest
There are no conflicts of interest.

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References

1. Patwardhan VV, Bhattar S, Bhalla P, Rawat D. Seroprevalence of syphilis by VDRL test and biological false positive reactions in different patient populations: Is it alarming? Our experience from a tertiary care center in India. Indian J Sex Transm Dis AIDS 2020;41:43-6.
2. Bala M, Toor A, Malhotra M, Kakran M, Muralidhar S, Ramesh V. Evaluation of the usefulness of *Treponema pallidum* hemagglutination test

in the diagnosis of syphilis in weak reactive Venereal Disease Research Laboratory sera. Indian J Sex Transm Dis AIDS 2012;33:102-6.
3. de Larrañaga G, Trombetta L, Wingeyer SP, Remondino G. False positive reactions in confirmatory tests for syphilis in presence of antiphospholipid antibodies: Misdiagnosis with prognostic and social consequences. Dermatol Online J 2006;12:22.

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Quick Response Code:

Website: www.ijstd.org

DOI: 10.4103/ijstd.ijstd_107_20

How to cite this article: Sethi S, Gupta P, Kumar B. Seroprevalence of syphilis by venereal disease research laboratory test and biological false positive reactions in different patient populations: Is it alarming? Our experience from a tertiary care center in India, 2020;41:43-46. Indian J Sex Transm Dis 2022;43:88-9.

Submitted: 05-Oct-2020 **Revised:** 05-Apr-2021
Accepted: 01-Jun-2021 **Published:** 07-Jun-2022