

PREVALENCE OF SYPHILIS AMONG PATIENTS IN A DENTAL CLINIC IN ENUGU, NIGERIA

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ABSTRACT

Objective: To examine the prevalence of syphilis among patients attending the dental clinic of the Federal School of Dental Technology and Therapy, Enugu, Nigeria.

Methodology: Venous blood samples randomly collected from 46 female and 54 male patients were screened for antibodies to *Treponema pallidum* using syphilis ultra rapid test strip (ACON, USA).

Results: The result of the study showed that out of the 100 patients screened, 1% yielded positive for *Treponema pallidum* antibody.

Conclusion: While the occurrence rate was low, it nevertheless constitutes a viable source of occupational infection. The need for observance of standard precautionary measures by dental professionals and proper sterilization of instruments are emphasized.

KEY WORDS: Syphilitic lesions, Precautionary measures, Infection, Patients.

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INTRODUCTION

Treponema pallidum, the etiologic agent of syphilis is a spiral, motile, chemo heterotrophic, microaerophilic, gram negative bacillus belonging to the family Spirochaetaceae. They are mainly transmitted by sexual intercourse (venereal syphilis) and less commonly *via* the placenta (congenital syphilis) or by accidental inoculation from infectious materials.¹⁻³ *T. pallidum* may remain motile *via* axial filament for 3-6 days at 25°C in the presence of reducing substances and suspending fluids. In whole blood or plasma stored at 4°C, the organism remains viable for at least 24hours which is of potential importance in blood transfusion.⁴

Individuals with syphilis often suffer concurrent infections with other sexually transmitted diseases. Co-infection with the AIDS virus can be an especially deadly combination with a rapid course. In addition to increasing susceptibility to HIV in co-infected individuals,

syphilis may be more aggressive and progress more quickly and relapses are also more common.⁵

Untreated syphilis is marked by distinct clinical stages designated as primary, secondary and tertiary syphilis. The Spirochaetes appear in the lesion and blood during the primary and secondary stages and consequently is very infectious at these stages. Recognition of syphilis is essential in dental practice because of the fact that the oral cavity is an important site for syphilitic lesion.^{6,7} The present study determined the prevalence of syphilis among patients attending the Dental clinic of the Federal School of Dental Technology and Therapy, Enugu, Nigeria.

METHODOLOGY

Sample population: A total of 100 patients including 46 females and 54 males attending the dental clinic of Federal School of Dental Technology and Therapy (FSDT&T) Enugu, Nigeria, were randomly selected. These samples were collected between July and October 2008.

Detection of Treponema pallidum antibody: Sterile 5ml syringes were used to collect venous blood aseptically from the 100 patients and introduced into sterile bijoux bottles containing anticoagulant (EDTA). They were respectively centrifuged at 2000rpm for two minutes. The separated plasma was used to qualitatively detect *T. pallidum* antibody using the syphilis ultra rapid taest strip (ACON, USA). The manufacturers instructions were followed in conducting the tests. The occurrence of two red bars in the control and patients window strips indicated positive test, while only one red bar in the control strip showed negative result. The research was conducted with the approval of the research ethical committee of the FSDT&T, Enugu. Patients' consents were also obtained prior to the study.

RESULTS

The result of the investigation showed that *Treponema pallidum* antibody was detected in 1% of the patients tested. The positive case was a married male patient above the age of 40 years (Tables-I and II).

Table-I: Seroprevalence of *T. pallidum* antibody among patients with respect to sex

Sex	<i>T. pallidum</i> status	
	Positive	Negative
Male	1	53
Female	-	46
Total	1	100

DISCUSSION

Syphilis, an old re-emerging disease in most parts of the world is currently a big challenge to Health and Dental Practitioners. Although it is relatively better controlled in the developed countries, the situation is aggravating in the developing nations.^{7,8} Syphilis is an important disease in Dentistry because, oral cavity is the common extra-genital site for syphilitic lesions and oral manifestations have been increasingly reported in recent years.^{7,8} Direct contact with primary or secondary syphilitic mucosal lesion or body fluids including blood and saliva in the course of normal dental practice can culminate to infection.^{9,10} For instance, dental treatments such as tooth extraction, scaling and polishing and other restorative dental procedures inside the oral cavity or outside in the dental laboratory can expose the Dental worker to cross infection, where standard preventive measures are not observed.

The 1% seroprevalence obtained in the present study is in line with the report of Guimaraes et al.,¹¹ in which 1.12% prevalence was recorded

Table-II: Seroprevalence of *T. pallidum* antibody among patients with respect to age and marital status

Age/Marital status	<i>T. pallidum</i> status	
	Positive	Negative
11-20	-	5
21-30	-	35
31-40	-	25
41>	1	31
Total	1	99
Married	1	53
Single	-	46
Total	1	99

among adults with mental illness in Brazil. Kubo et al.,¹² however obtained a higher occurrence of 6.8% among patients in hospital Dentistry in Japan. Although, the prevalence rate in the present study is low, it is not negligible. This is because the disease, especially at the primary stage presents with lesions known to be highly infectious.⁷ It is known that an infected person may remain infectious for 3-5 years during early syphilis. In addition, Falase and Akinkugbe¹³, reported that syphilis can spread through drinking glasses. This is particularly significant in dental practice, where patients always use drinking cups in between treatments. This therefore brings to the fore, the need for strict adherence to standard precautionary measures by Dental Practitioners. It also further highlights, the urgent necessity for all dental clinics to maintain viable decontamination strategies to ensure that all materials used on patients are always sterile. Such decontamination equipments as autoclaves should be routinely checked to ascertain constant efficiency.

Worthy of consideration also, is the fact that syphilitic lesions in recent times could be confusing, since many systemic diseases also present with similar clinical signs and symptoms.¹⁴ Presence of atypical ulcerations in patients has been reported.^{14,15} It is therefore our suggestion, that atypical oral lesions should not be neglected, but subjected to differential diagnosis to determine the actual aetiological agent.¹⁰ This would be beneficial to the patients and apparently reduce the risk of further transmission of the pathogen in the health care settings.

It is also important to note that the positive syphilis case recorded in the present study was observed in an elderly male patient. This is consistent with the findings of Kubo et al.,¹² in which positive cases were reported among the elderly patients studied. In conclusion, the finding of this study further emphasizes the need for adaptation of stringent preventive measures against nosocomial infections in dental settings. This is imperative at the present time, especially in the developing nations where pre-screening

of patients before treatment, remains an uncommon practice.

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