

PREVALENCE OF SQUAMOUS INTRAEPITHELIAL LESIONS OF THE CERVIX IN JALINGO, NIGERIA

Ahmed SA¹, Ayuba HU², Maiangwa A², Vakkai VI², Dashe DR², Joel R², Abubakar M¹, Danga D², Raaluke UA², Kataps HJ²

1. Department of Pathology, Ahmadu Bello University Teaching Hospital Zaria, Nigeria
2. Department of Clinical Services, Specialist Hospital Jalingo, Nigeria

Correspondence

Ahmed SA

Email: sahmednl@yahoo.com

ABSTRACT

Aim: Cervical cancer is the second most common cancer among women in Nigeria; fortunately it is preventable through regular screening and management of intraepithelial lesions. This study aims to determine the prevalence of squamous intraepithelial lesions (SIL) of the cervix among women of reproductive age.

Methods: All sexually active women between the ages of 16 – 45 years were screened consecutively for cervical cancer in the Gynecology Clinic of the Specialist Hospital Jalingo using the conventional Pap smear and reported using The Bethesda System.

Results: A total of 416 sexually active women were screened. Majority in the 41 – 45 years age group and most of the participants (78.8%) were married. About 83.9% of respondents were negative for SILs; 11.1% had low grade squamous intraepithelial lesion (LSIL); 4.6% had high grade squamous intraepithelial lesion (HSIL); while atypical squamous cells of undetermined significance (ASC – US) constitute 0.48%. About 18.9% of participants with negative report had inflammatory smears.

Conclusion: The prevalence of squamous intraepithelial lesions is high and there is the need for intervention in terms of health education, vaccination, mass screening and management of abnormal smears.

Keywords: Squamous intraepithelial lesion, Prevalence, Cervix

INTRODUCTION

Cancer of the cervix is the 3rd most common cancer in women worldwide. An estimated 530,000 women across the world were diagnosed with cervical cancer worldwide in the year 2008. The developing countries carry the biggest burden of cervical cancer, with more than eight out of ten (86%) cases being diagnosed in 2008 (Ferley et al., 2008). It is the

most common female genital cancer constituting a major cause of mortality among Nigerian females in their most productive years (Mohammed et al., 2006). The World Health Organization estimates the age-standardized incidence rate of cervical cancer for Nigeria to be 33 per 100,000 women. Cervical cancer mortality rate for the country (22.9 deaths per 100,000 women) ranks 10th among countries in

the world (Boyle and Levin, 2008). These dismal indices have resulted in renewed calls for concerted efforts aimed at addressing this problem. A fortunate aspect of the problem is the fact that cancer of the cervix is largely a preventable disease and this prevention relies on the detection and treatment of Squamous Intraepithelial Lesion (SIL), a premalignant disease stage. Cytologic screening is effective in preventing cervical cancer because majority of cancers are preceded by a long-standing precancerous lesion. SIL refers to a precancerous lesion of the cervix that is associated with infection of the epithelial cells of the cervix by high oncogenic risk subtypes of Human papilloma virus (HPV), especially subtypes 16 and 18. Our literature search revealed no previous study on the prevalence of SIL in Jalingo, Nigeria. Considering the potential contribution of early detection and treatment of SIL towards control and prevention of cervical cancer, a pioneer study on the prevalence of SIL in Jalingo is of utmost importance. The aim of this study is to determine the prevalence of squamous intraepithelial lesions (SIL) of the cervix among women of reproductive age in Jalingo, Nigeria.

MATERIALS AND METHODS

Women attending Specialist Hospital Jalingo for routine gynaecological conditions were invited to participate in a cervical cancer screening study. All sexually active women between the ages of 16-45 years who provided informed consent were included in the study. Ethics approval was obtained from Research Ethics Committee of the hospital. All participants were screened with conventional cervical cytology (Pap smear). Smears were made from cervical specimens, fixed in ethanol and stained by the Papanicolaou technique. Cytopathology reports were based on the Bethesda classification system (Diane and Ritu, 2004). The data obtained were subjected to statistical analysis using Microsoft Office Excel 2010 and SPSS 17 statistical packages.

RESULTS

A total of 416 sexually active women were screened. Majority of the were in the 41 – 45 years age group and most of the participants (78.8%) were married. About 83.9% of respondents were negative for SIL. LSIL is composed of superficial and intermediate squamous cells having mild nuclear enlargement, coarse chromatin and sometimes koilocytic changes (Plate 1); this accounts for 11.1% of cases. HSIL is composed of squamous cells with marked increase in nuclear cytoplasmic ratio, hyperchromatic nuclei, irregular nuclear membrane and moderate amount of cytoplasm (Plate 1); it accounts for 4.6% of cases. Atypical squamous cells of undetermined significance (ASC-US) constitute 0.48% (Table I). Out of the participants with negative report, 18.9% had inflammatory smears. The age specific prevalence rate (21%) was highest among the age group 36-40 years (Table II).

DISCUSSION

The percentage of women positive for SIL (16.1%) in Jalingo is high compared to figures from similar studies in Nigeria. Studies from Abuja, Kano and Enugu revealed prevalence of 6.8%, 10.3% and 12.2% respectively (Pimentel et al., 2013; Yakasai et al., 2012; Chukwuali et al., 2003). The higher prevalence in this study may likely be related to the relatively less urban nature of Jalingo. Screening services in Jalingo are almost nonexistent and that may hinder prompt identification and management of squamous intraepithelial lesions and that can lead to the high figures as seen in our study. Additionally, Abuja, Kano and Enugu are economically prosperous environments compared to Jalingo, and there is well documented association between low socioeconomic status and high prevalence of HPV infection (Bosch et al., 2002; Richter et al., 2013). This prevalence is however, comparable to those reported in rural communities in South Africa (17.3%) (Teixeira et al., 2012) and Brazil (23%) (Franco et al., 1999). Among the subtypes of SIL, LSIL (68.3% of all SIL) predominates while HSIL constitutes 29.3% and ASC-US constitutes 2.4%. This contrasts with reports of

the study in Kano where majority of positive patients (63.2%) had HSIL. This probably just represents difference in the specific time the condition is detected within the natural history of SIL as over 80% of HSIL are known to arise from LSIL (Obure et al., 2009). The Kano report is still surprising because not all LSIL progress to HSIL and the differential is difficult to explain. The highest age specific SIL prevalence figure for the age group 36-40 in our study is similar to that reported in Tanzania. HPV infection has a long latent period (Obure et al., 2009) and that age group may represent the period of manifestation of lesions resulting from HPV infections contracted from earlier years of sexual activities (Obure et al., 2009).

CONCLUSION

The prevalence of squamous intraepithelial lesions is high and there is the need for intervention in terms of health education, vaccination, mass screening and management of abnormal smears.

REFERENCES

- Bosch FX, Lorincz A, Muñoz N, Meijer CJLM, Shah KV (2002). The causal relation between human Papilloma virus and cervical cancer. *J Clin Pathol*; 55(4): 244-265.
- Boyle P, Levin B. World Cancer Report 2008. IARC Nonserial Publication 2008.
- Chukwuali LI, Onuigbo WIB, Mgbor NC (2003). Cervical cancer screening in Enugu. *Trop J Obs Gyn*; 20(2): 147-154.
- Diane S, Ritu N. The Bethesda System for reporting cervical cytology: Definitions, Criteria, and Explanatory Notes. 2nd ed. China: Springer; 2004.
- Ferley J, Shin HR, Forman D, Mathers C, Parkin DM (2010). Estimate of worldwide burden of cancer in 2008: GLOBACAN 2008. *Int J cancer*; 127: 2893-2897.
- Franco EL, Villa LL, Sobrinho JP, Prado JM, Rousseau M-C, Desy M, et al., (1999). Epidemiology of acquisition and clearance of cervical human papillomavirus infection in women from a high risk area for cervical cancer. *J Infect Dis*;180: 1415–1423.
- Mohammed A, Ahmed SA, Oluwole OP, Avidime S (2006). Malignant tumours of the female genital tract in Zaria, Nigeria: Analysis of 513 Cases. *Ann Afr Med*; 5(2): 93 – 96
- Obure J, Olola O, Swai B, Mlay P, Masenga G, Walmer D (2009). Prevalence and severity of cervical intraepithelial lesion in a tertiary hospital in northern Tanzania. *Tanzan J Health Res*;11(4):163-169.
- Pimentel VM, Jiang X, Mandavilli S, Umenyi NC, Schnatz PF (2013). Prevalence of high risk cervical human papillomavirus and squamous intraepithelial lesions in Nigeria. *J Low Genit Tract Dis*; 17(2): 203-209.
- Richter K, Becker P, Horton A, Dreyer G (2013). Age specific prevalence of cervical human Papillomavirus infection and cytologic abnormalities among women in Gauteng Province, South Africa. *S Afr Med J*; 103(5):290-292
- Teixeira NCP, Araùjo ACL, Correa CM, da Costa Lodi CT, Lima MIM, de Oliveira Carvalho NO (2012). Prevalence and risk factors for cervical intraepithelial neoplasia among HIV-infected women. *Braz J Infect Dis*;16(2):1413–8670.
- Yakasai IA, Abdullahi HM, Mohammed AZ, Galadanci H (2012). Prevalence of cervical dysplasia among women in Kano Municipal, Kano State, Nigeria. *Journal of Medicine in the Tropics*; 14(1): 64 – 68.

Table I: Frequency distribution of SIL by subtype

Type of SIL	Frequency	Percentage
ASC-US	1	2.4
LSIL	28	68.3
HSIL	12	29.3
Total	41	100

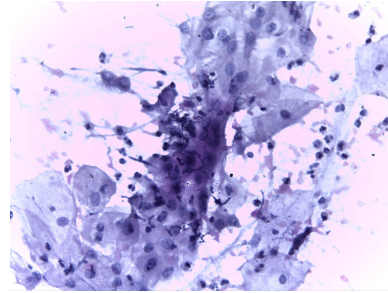


Plate 1: LSIL, superficial and intermediate squamous cells with mild dyskeratosis

Table II: Age-specific prevalence of SIL

Age (yr)	No Screened	No positive	Age specific prevalence (%)
>25	23	3	12
26-30	40	7	17.5
31-35	50	8	13.3
36-40	71	15	21.1
41-45	72	8	11.1
Total	256	41	-

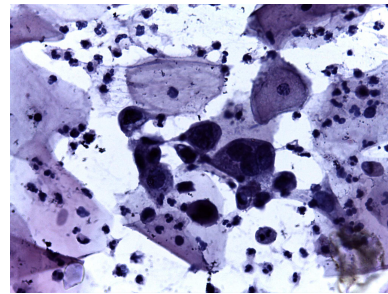


Plate 2: HSIL, superficial and intermediate squamous cells having marked increase in nuclear cytoplasmic ratio, coarse chromatin and irregular nuclear membrane.