AGE DISTRIBUTION OF ABNORNMAL PAP SMEAR IN A SECONDARY HOSPITAL IN SOUTH-WEST NIGERIA

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ABSTRACT

Background: Cervical cancer is a leading cause of cancer death in Sub- Saharan Africa. It is the second commonest cancer in women worldwide. The prevalence of the disease has reduced in developed nations compared to most developing nations as a result of systematic screening programmes. There is no age distribution pattern of abnormal Paps smear in Nigerian women today that can help in the design of a national screening programme.

Objective: To determine the age distribution pattern of abnormal Paps smear in women in our environment in order to have a basis for the points of entry and exit for cervical cancer screening protocol.

Materials and Method: In this retrospective review, the 102 clients who had abnormal smear out of the total 629 clients who had Pap's smear at the State Specialist Hospital, Akure over a period of 5years (2008-2012) were analyzed for specific diagnosis and their age distribution.

Results: Among the clients with abnormal smear, 57 (55.9%) had ASCUS, 34 (33.3%) had LSIL and 9 (8.8%) of the clients had HSIL. A client each had AGCUS and cancer cytology and was 50 and 60 years old respectively. ASCUS, LSIL and HSIL were found across all age groups except 30years and below where few LSIL were seen.

Conclusion: Screening uptake is still low in our environment and because only few LSIL were seen in Clients ≤30years, it may be cost effective to start screening from 30years and to exit screening at 70years since abnormal smears were still found in women ≥70years.

Key Words: Cervical cancer, Paps smear, screening.

INTRODUCTION

Cervical cancer is the second most common cancer in women worldwide and the leading cause of cancer deaths among women in developing countries. It is particularly prevalent in Sub-Saharan Africa and is associated with a high mortality rate [1,2] [3]. The disparity in this disease burden between developed and developing countries is attributable to the organized screening programmes in developed nations for the detection of premalignant lesions of the cervix, early diagnosis of cervical cancer, treatment and adequate follow-up of detected cases [4, 5]. According to the WHO, Nigeria has a

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population of 40.43 million women ages 15 years and older who are at risk of developing cervical cancer. It is estimated that every year 14,550 women would be diagnosed with cervical cancer and 9,659 of them would die from the disease in Nigeria. The World Health Organization also projects a 25% increase in incidence in the next decade in the absence of widespread interventions [6].

Cervical cancer unlike most other cancers offers great potential for prevention, early detection, and cure due to its long preinvasive phase. This cancer arises by four steps. These include human papilloma virus (HPV) infection, viral persistence, progression of clone of persistently infected cells to precancer and invasion. The whole of this process takes between 10-15 years. The backward steps occur also, namely clearance of HPV infection and the less frequently, regression of precancer to normalcy[7]. The precancerous stage in this process is seen on cytology as abnormal Pap's smear. The repeated HPV infection phase is commoner in sexually active young adults, but interestingly reversal is the norm in most instances. Therefore all forms of screenings become significant after the age of thirty when persistence may be seen or in those less than thirty with immunosuppression[7].

At the moment three modalities of screening are available. These are the Pap's smear or conventional cytology, visual inspection aided with Acetic Acid (VIA) and high risk HPV DNA testing. Pap's smear has been the main stay of screening for cervical precancer in all developed countries. It has high specificity but low sensitivity [5]. The VIA has been proposed for resource poor countries where no systematic screening exists [6]. This method is low in sensitivity and specificity. The HPV DNA test is highly specific and equally sensitive[7]. Most screening protocols now have the high risk HPV screening tests as part of their components to improve the overall specificity and sensitivity [8].

Though several terminologies have been used in the past in reporting abnormal Pap's smear, the need for terminologies that convey clear diagnostic interpretation of morphologic findings led to the Bethesda system of reporting. The 2001 revised Bethesda system basically partitioned premalignant cells into low grade (LSIL) and high grade squamous intraepithelial lesions (HSIL) with the description of some of atypias that do not fall under these broad bands as atypical squamous cells of undetermined significance (ASCUS) and atypical squamous cells, high grade lesion cannot be ruled out (ASC-H). All benign cellular changes and reactive processes are currently reported as negative for intraepithelial lesion or malignancy (NILM). When abnormal glandular cell components are seen they are described as atypical glandular cells of undetermined significance (AGCUS) or atypical glandular cells, high grade lesions cannot be ruled out (AGC-H) [9].

An age distribution pattern of the various diagnosis of the precancer may help in developing a programme of screening that addresses the specific needs and peculiarity of our population.

MATERIALS AND METHODS

A retrospective review of all the cervical Pap smear cases reported at the department of Histopathology of the state specialist hospital Akure, South west Nigeria for a period of five years from January 2008 to December 2012 was done. All the cases were reported according to the revised 2001 Bethesda system.

Unsatisfactory smears were excluded from the study. The analysis of the data was done using SPSS 16.0.

RESULTS

A total of 629 pap smears were reported during the period under review and 102 of them (16.3%) had abnormal cytology, 1 had malignant lesion while 527 of the clients representing 83.8% had cytology negative for Intraepithelial Lesion or malignancy (NILM) (Table 1).

The mean age of clients with abnormal cytology were 53.5years with the youngest being 28 years and the oldest 80 years. Among the clients with abnormal smear, 57 (55.9%) had ASCUS, 34 (33.3%) had LSIL and 9 (8.8%) of the clients had HSIL. A client each had AGCUS and cancer cytology and was 50 and 60 years old respectively (Table 2).

The distribution of abnormal lesion across age group showed that ASCUS was present across all age groups except 30years and below with a peak at 51-60years. LSIL also spanned across all age groups with a similar peak as ASCUS. HSIL has a similar pattern also with ASCUS but with its own little peak at 61-70 years. A case each with AGC and malignancy was seen at 41-50 years and 51-60 years. ASCUS, LSIL and HSIL were also seen in ≥71years group (Table 3, Fig 1).

Table 1: Classification of All Clients

DIAGNOSIS	NO. OF CASES
NILM/NSIL	527(83.8%)
Precancer(ASCUS, LSIL, HSIL)	101(16.1%)
Cancer	1(0.2%)
Total	629 (100%)

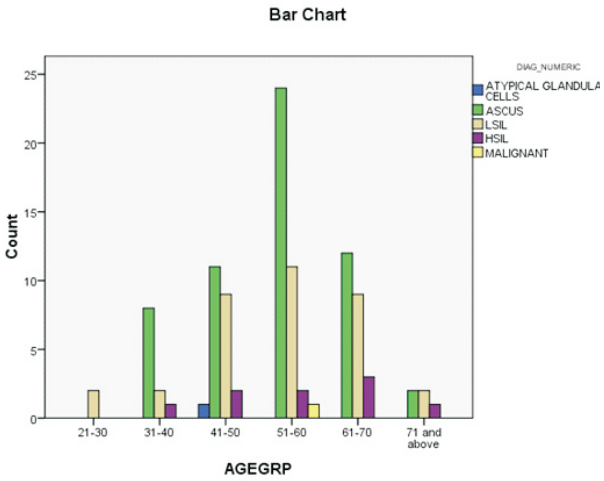
Table 2: Diagnosis

DIAGNOSIS	No. of Cases (%)
AGCUS	1(1.0%)
ASCUS	57(55.9%)
LSIL	34(33.3%)
HSIL	9(8.8%)
MALIGNANT	1(1.0%)
TOTAL	102(100%)

Table 3: Age Group Distribution of Abnormal Smear

Age group	AGCUS	ASCUS	LSIL	HSIL	Malignant	Total (%)
21-30	0	0	2	0	0	2
31-40	0	8	2	1	0	11
41-50	1	11	9	2	0	23
51-60	0	24	10	2	1	37
61-70	0	12	9	3	0	24
=71	0	2	2	1	0	5
TOTAL	1(1.0%)	57(55.9%)	34(33.3%)	9(8.8%)	1(1.0%)	102(100%)

Figure 1



DISCUSSION

In the five years period under review, only 629 clients presented to the hospital for cervical cancer screening, in an environment where there is no systematic screening programme. This implies that the awareness of the public health importance of this disease is still low in our region. This equally accounts for the late presentation and high mortality associated with the disease[10].

The 102 abnormal smears seen in this review represents a prevalence of 16.3%. This is high compared to the prevalence reported in other places like Kuwait (4.3%)[11], Saudi Arabia (5%)[12], among Jewish Israeli women (0.95%)[13] but comparable to those of American Indian (16%) and Alaska native women(14.9%)[14]. The relatively higher prevalence in this study can be explained by the lack of an organized cervical screening programme for women in Nigeria compared with places where there are organized screening. In cases of the American Indians and Alaska native women whose prevalence were similar to that in this review, they represent a segment of the American population whose uptake of screening services is poor.

This study shows ASCUS as the most preponderant lesion across all age groups, representing 55.9% of all abnormal lesions. This proportion is high considering the amorphous significance of this group. ASCUS has been shown in other studies to have histological correlations varying from reactive changes to frank cancer[15]. Dvorak et al reported 72% of 249 ASCUS cases as histological cancer whereas Fallani et al reported only one ASCUS case as histological cancer in their own series [16, 17]. This therefore underscores the need for the further colposcopic evaluation of patients with ASCUS. Following ASCUS closely is LSIL (33.3%), HSIL (8.8%), AGCUS (1%) and invasive cancer (1%). This pattern is similar to that reported by Edelman et al [18].

Only few LSIL were found in clients 30years or less, those older had more of ASCUS, LSIL and HSIL in decreasing order. This pattern shows that abnormal smears are fewer below the age of 30years and when they are found it is usually the low grade lesion which has the highest reversal tendency. The implication of this for planning a cervical cancer screening programme in our region is that it would be cost effective for screening to commence at 30years. Interestingly too, some abnormal lesions were found in women 70years and above. This correlates with findings in local studies demonstrating the persistence of high risk Human Papilloma Virus, the causative agent for cervical cancer in women beyond 60years[19,20]. This also implies that compared to most screening protocols that stop at the age of 60years, protocols in this part of the world may have to extend to the age of 70years.

CONCLUSION

The uptake of cervical cancer screening is still very low in our environment as only women who come to the hospital for other reasons

undertake opportunistic screening. The prevalence of abnormal smear is high because of lack of systematic cervical cancer screening. Most lesions were seen after the age of 30years with significant lesions even in women 70years and above. There is therefore the need for a systematic cervical cancer screening programme in Nigeria that will be compulsory for women 30years or more with possible exit at the age of 70years.

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