Scholars Journal of Applied Medical Sciences (SJAMS) **ISSN 2320-6691 (Online)**
Sch. J. App. Med. Sci., 2015; 3(8C):2903-2907 **ISSN 2347-954X (Print)**

(An International Publisher for Academic and Scientific Resources)
www.saspublishers.com DOI: 10.36347/sjams.2015.v03i08.033

Research Article

Histopathologic Pattern of Cervical Lesions at Omdurman Military hospital, Sudan

Mohammed H.M. Ali[1], Hussain Gadelkarim Ahmed[2], Rashid Awad Salih[2], Isamil. O. Khalid[1], Mohammed. A. Abd Allah, Mahgoub. M. Khier[1], Mohammed Ibrahim1, Niemat M. Adam[1]
[1]Histopathology and Cytology Department, Omdurman Military Hospital, Sudan
[2]College of Medicine, University of Hail, Kingdom of Saudi Arabia (KSA)
[3]Department of Pathology, College of Medicine, Karay University, Sudan

***Corresponding author**
Hussain Gadelkarim Ahmed
Email: hussaingad1972@yahoo.com

Abstract: Although, cervical cancer is a leading female cancer in developing countries, there a lack of literature from Sudan. Therefore, the aim of this study was to assess the histopathologic patterns of cervical cancer among Sudanese patients. This study retrospectively investigated 41 tissue samples, which represents number of patients refereed to do cervical biopsies during the period from January to December 2014. In results Carcinoma of the cervix represented the major diagnostic finding at Omdurman military hospital 51.2%, compared to the benign conditions 48.8%. Squamous cell carcinoma was the dominant malignancy 71.4%, followed by adenocarcinoma 14.3% and adeno squamous carcinoma 9.5%. In Conclusion cervical cancer is prevalent among Sudanese women attending with cervical lesions and the risk increases with age. Screening strategy for early detection of cervical cancer or pre-cancer is highly needed in Sudan.
Keywords: cervical cancer, Sudan, cervical carcinoma

INTRODCTION:

The cervix is the elongated fibro muscular portion of the uterus that measures 2.5 to 3.0 cm[1], lined by two types of epithelium, an outer squamous epithelium and internal mucin secreting columnar epithelium, with unique junctional area containing reserve/basal cells[2]. This epithelium is vulnerable to many pathological changes ranging from inflammation to an extremely lethal malignant transformation.

Due to easy accessibility to the cervix and the effective screening programs, cervical cancer is reduced in the developed countries, ranking as the eighth most common cause of cancer mortality in some countries as in USA[3]. But still cervical cancer remains the most common gynecologic malignancy in the world, and the second most frequently diagnosed cancer in women worldwide after breast cancer. The majority of cases occur in developing countries[4].

MATERIAL & METHODS:

This study is a retrospective cross sectional study conducted at Omdurman military hospital, department of pathology in the central laboratory, in the period from January 2014 to December 2014. Sample size represents a full coverage of received samples during the period of the study, which were 41 cases. Of the 41investigated cases, 38 cervical biopsies and the remaining were with total abdominal hysterectomy (TAH) specimens which included three cases.

All tissue blocks of cervical tissues are retrieved, stained by Haematoxyline and Eosin (H & E) stain and re-examined.

All specimens were formalin-fixed and paraffin wax processed tissues. Information regarding each patient was obtained from each patient's file. The specimens were fixed in 10%formalin and then processed by tissue processing machine using a schedule adopting 24-hour scheduling. Three 5-micron thickness sections were obtained from each patient's block using Rotary Microtome.

Diagnosis

Statistical analysis

Data analysis:

Data management was done using Statistical Package for Social Sciences (SPSS version 16). SPSS was used for analysis and to perform Pearson Chisquare test for statistical significance (P value). The 95%

confidence level and confidence intervals were used and P <0.05was considered statistically significant.

Ethical Consent

The study was approved by Faculty Research Board, Department of Pathology, College of Medicine, Karary University, Sudan. This in addition to the fact that, the authors followed the tenants of the Declaration of Helsinki.

RESULTS:

In this study 41patients with cervical lesions were investigated for the histopathologic pattern, their ages ranging from 40 to 80 years with a mean age of 64 year-olds.

The analysis of these cases revealed that the malignant conditions were 21/41(52%) of cases. The rest of the cases were diagnosed as benign conditions 20/41(48%), the majority of the benign conditions were cervical polyps representing 12/20 (60%), followed by chronic non-specific cervicit is and cervical intraepithelial neoplasia I (CIN1) constituting, 7/20(35%) and 1/20 (5%), respectively, as shown in Fig1.

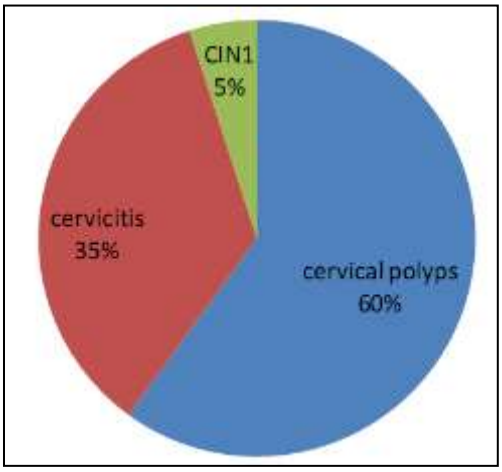

Fig-1: Description of the study population by benign histopathologic pattern

Analysis of the malignant conditions showed that squamous cell carcinoma was the commonest type of squamous cell carcinoma representing 15/21(71.4%), followed by adenocarcinoma 3/21(14.3%), adeno-squamous carcinoma 2/21(9.5%) and glassy cell carcinoma 1/21(4.8%.), as indicated in Fig 2.

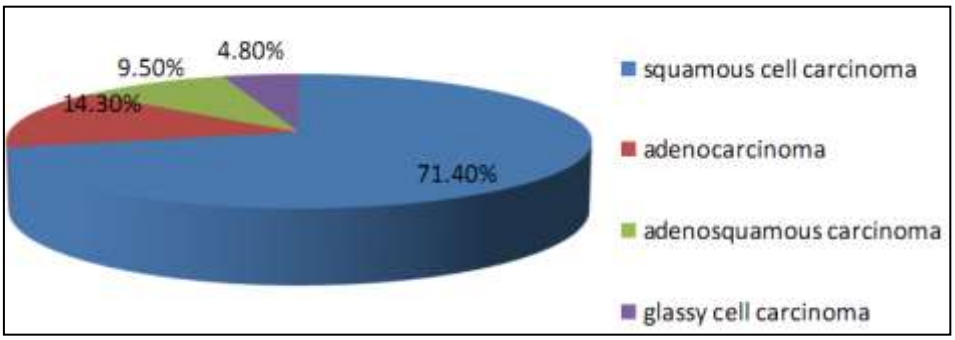

Fig-2: Description of the study population by histopathologic malignant pattern

The mean age of malignancy in this study was 63.03 years. These findings indicate that the risk for malignant transformation is increasing with increase of age and this was found to be statistically significant P <0.001. In the cases of squamous cell carcinoma the peak incidence was found among the age group 70-79 years representing 40%, followed by the age groups 50-59 and 60-69 years constituting, 26.6% and 20% in this order, as shown in Table 1. The mean age of squamous cell carcinoma was 64.6 years. The mean of age of adenocarcinoma was 57.7 years.

Table-1: Distribution of the study population by age and histopathologic pattern

Age	**< 40**	**40-49**	**50-59**	**> 60**	**Total**
Cervical cancer	0	2	7	12	21
Endo-cervical polyp	4	5	2	1	12
Cervitis	3	2	1	1	7
CIN1	0	0	1	0	1
Total	7	9	11	14	41

When counting the percentages of histologic pattern within individual age group, for malignancy, there ascending proportions with the increase of age, such as, for age ranges, <40 years, 40-49, 50-59 and 60+ represented, 0%, 22%, 63.6%, and 78.6%, respectively. For Benign conditions, there descending proportions with the increase of age, such as, for age ranges, <40 years, 40-49, 50-59 and 60+ represented, 100%, 55.6%, 36.4%, and 14%, in this order, as indicate in Fig2. Within the squamous cell carcinoma, the great majority of cases were found among age range more than 60 years representing 67%, as indicated in Fig 3.

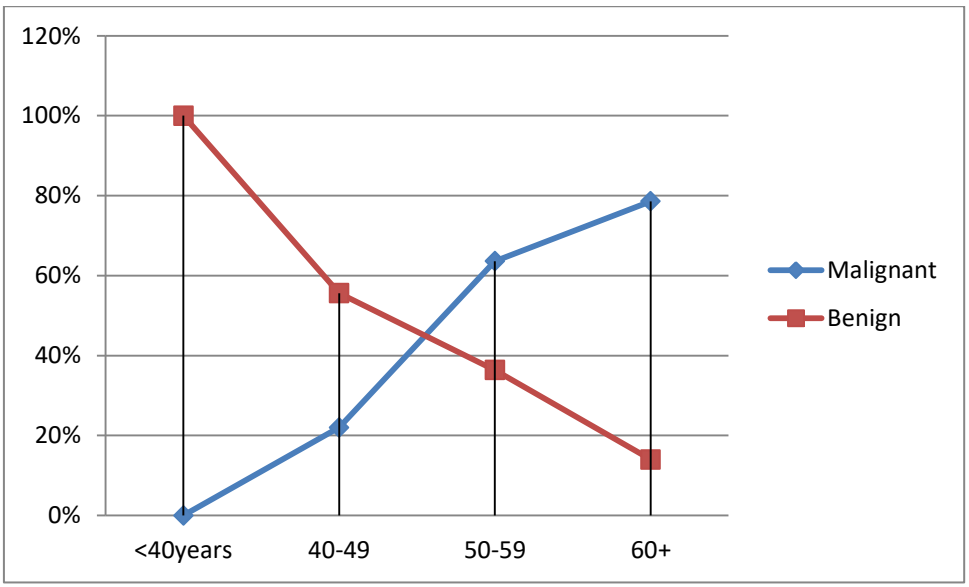

Fig-2: Description of the study population by pathologic pattern and age with entire age group.

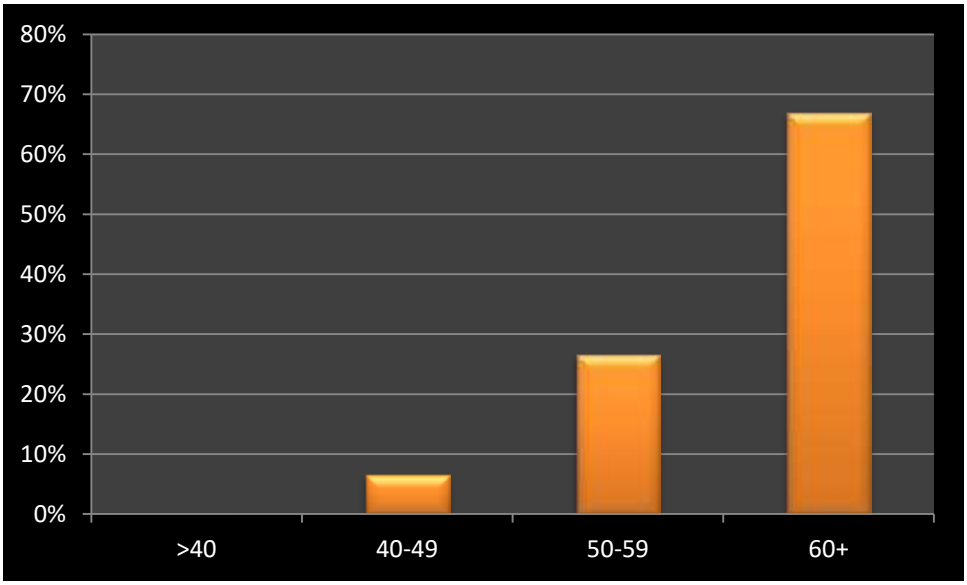

Fig-3: Description of age distribution with cervical squamous cell carcinoma

DISCUSSION

This study was generally coinciding with most studies especially those undertaken in the developing countries, except in some findings. In this study the neoplastic malignant conditions were more common than the benign conditions, with cervical polyps the dominant benign lesions, these findings were similar to that of Purnima Poste *et al.;* study [5], in which malignant conditions constitute (13%), the benign conditions constitute (6.19%), and polyps were the most common diagnosis of benign conditions representing (77.36%). On the other hand the study was differ from other studies as Aravind Pallipady *et al.;* study [6], in which the benign conditions were more than the malignant conditions, also both studies differ in the type of the dominant benign pathology, which was chronic cervicit is in Aravind Pallipady *et al.;* study, this finding was also present in Omoniyi-Esan OG *et al.;* study [7] in Nigeria in which chronic cervicit is constitute (82%).

Regarding the malignant conditions squamous cell carcinoma was the dominant condition followed by adenocarcinoma, this finding was a constant in all reviewed studies except in one study done in Malysia byAl-Jashamy K *et al.;* [8] in which CIN constitute 42%, followed by squamous cell carcinoma 29%, and adenocarcinoma 17%, apart from this difference the study was coincide with the following studies; in Pakistan with study of Badar F *et al.;* [9], in which squamous cell carcinoma constitute 75%, adenocarcinoma 7.9%, and with Olu-Eddo AN *et al.;* study [10] in Nigeria in which squamous cell carcinoma represent 92.3% & adenocarcinoma 6%, also the study had a similar pattern with Ehsan San Ullah *et al.;* study [11] in Pakistan, where they found that squamous cell carcinoma constitute 86% & adenocarcinoma 14%, and with Dhakal HP *et al.;* [12] study in Nepal, in which their study highlighted that squamous cell carcinoma was the commonest diagnosis representing 93%, followed by adenocarcinoma constituting 3.8%.

In contrast to Dhakal HP *et al.*[11]*;* study where CIN was the third common diagnosis (2.1%) and Al-Jashamy K *et al.;*[7] in which adenocarcinoma was the third common diagnosis (17%), this study showed that adeno squamous carcinoma was the third most common diagnosis, under this trend the study was coincide with studies of Badar F *et al.;*[8] and Olu-Eddo AN *et al.*[9]*;* where adeno squamous represent 0.7% & 1% respectively. In this study the mean age of malignant lesions was 63.03 years, which was the highest age compared with a mean age of 50 years in studies of Sarla Agarwal *et al.;* [13] in India &Olu-Eddo AN *et al.;* study, also higher than the mean age of malignant lesions in Indonesia, which was 51.42 years, according to Tricia *et al.;* [14] study, Badar *et al.;*[8] study in which the age was 49.2years and OA Oguntayo *et al.;* study which it was 44.5 years. The peak incidence of benign conditions in this study at 40-49 years and this was identical to that of Omoniyi-Esan OG *et al.;* study[6].

CONCLUSION

This study was demonstrated that the malignant conditions were the dominant pathology 51.2%. The squamous cell carcinoma was the commonest malignant conditions. The mean age of malignant conditions was 63.03 years; while in squamous cell carcinoma was 64.6 years. Cervical polyps were the most common diagnosis among the benign lesions with a peak incidence at 40- 49 years.

REFERENCES

1. Mills S; Histology for pathologists.3rd edition: Lippincott Williams & Wilkins, 2007.
2. Mills S; Diagnostic Surgical Pathology. 5thedition.Phyladelphia, Baltimore: Lippincott Williams & Wilkins, 2004.
3. Fortner K, Szymanski L, Fox H, Wallach. E; Johns Hopkins Manual of Gynecology and Obstetrics. 3rd edition. Baltimore, Maryland: Lippincott Williams & Wilkins, 2007.
4. Purnima Poste, Anuradha Patil, Sainath K. Andola; Incidence of Neoplastic Cervical Pathologies Recorded at a Medical College. International Annals of Advanced Scientific Research, 2015; 2(2).
5. Pallipady A, Illanthody S, Vaidya R, Ahmed Z, Suvarna R, Metkar G; A Clinico-Morphological Spectrum of the Non Neoplastic Lesions of the Uterine Cervix at AJ Hospital, Mangalore. Journal of clinical and diagnostic research, 2011; 5(3):546-550.
6. Omoniyi-Esan OG, Osasan SA, Ojo OS; Non-neoplastic diseases of the cervix in Nigerians: a histopathological study. African Health Science. 2006; 6(2):76-80.
7. Al-Jashamy K, Al-Naggar RA, San P, Mashani M; Histopathological findings for cervical lesions in Malaysian women. Asian Pac J Cancer Prev. 2009; 10(6):1159-62.
8. Badar F, Anwar N, Meerza F, Sultan F; Cervical carcinoma in a Muslim community. Asian Pac J Cancer Prev. 2007; 8(1):24-6.
9. Olu-Eddo AN, Ekanem VJ, Umannah I, Onakevhor J; A 20 year histopathological study of cancer of the cervix in Nigerians. Nig Q J Hosp Med. 2011; 21(2):149-53.
10. Ehsan Ullah, Lail.R, Taj.N, Ijaz Alam.M; Malignant and Benign Lesions of Female Genital Tract – An Experience at A Tertiary Care Hospital. Biomedica. 2012; 28.
11. Dhakal.HP, PradhanM; Histological pattern of gynecological cancer. J Nepal Med Assoc. 2009; 48(176):301-5.

12. Sarla Agarwal, Sruthi Bhaskaran, Shalini Rajaram, Shagun Sinha; Role of hospital-based cancer registries: A decade of experience of cancer cervix from a Tertiary Care Centre, India. Indian Journal of Community Medicine, 2014; 39(4):241-244.
13. Tricia D. Anggraeni, Laila Nuranna, Catherine, Cecep S. Sobur, Fitri Rahardja, Christin W. Hia, et al.; Distribution of Age, Stage, and Histopathology of Cervical Cancer: A Retrospective Study on Patients at Dr. CiptoMangunkusumo Hospital, Jakarta, Indonesia. Indones J obstet Gynecole; 35(1).