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CLINICAL INFORMATION AS A QUALITY ASSURANCE DETERMINANT IN DIAGNOSIS OF ENDOMETRIAL PATHOLOGY: FINDINGS FROM CALABAR, NIGERIA

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ABSTRACT

In this era where laboratory tests are automated, diagnostic laboratories are increasingly seen as no more than factories that generate results. The danger in this complacent thinking is the fact that surgical pathology remains critically dependent upon an individual's interpretation of microscopic finding. Error reduction in surgical pathology is dependent understanding of how errors occur and the application of error reduction strategies. This study aims to examine an important determinant of diagnostic accuracy of endometrial curetting specimens, which is "adequate clinical history" and give an insight into the problem. A retrospective study reviewing pathology requisition forms accompanying endometrial curetting submitted to the histopathology department of the University of Calabar Teaching Hospital (UCTH) from Jan. 2004 to Dec. 2007. Each request form was analysed for presence and completeness of clinical information. Out of a total of 126 cases of endometrial currettings studied, the most consistently provided information was age of patient (100%) while the least provided information was contraceptive/hormonal history of patient (0.8%). Relevant clinical history such as

contraceptive/hormonal history which has a direct bearing on interpretation of endometrial curetting was sadly lacking in a great majority (99.2%) of cases. Clinicians need to be made aware of their primary responsibility to request histopathology services appropriately for the benefit of the patient.

Keywords: Automated, Clinical Information, Diagnostic laboratories, Endometrial Pathology, Microscopic Finding

INTRODUCTION

Quality assurance measures in medical practice are coming under increasingly scrutiny and the discipline of Anatomic Pathology has not been spared. Diagnostic accuracy is an important measure of quality in pathology. Despite the fact that we are in an era where laboratory task are automated, performed by calibrated machines, reducing factors of human error and subjectivity, Surgical pathology remains critically dependent upon an individual's interpretation of microscopic findings. To achieve optimal patient care services, laboratory/clinical communication is fundamental. Incomplete communication between the clinicians and pathologist may make diagnosis difficult or impossible. This is because a microscopic diagnosis is a subjective evaluation that acquires full meaning only when the pathologist is fully cognizant of the essential clinical information [**1]**.

Pathologists are responsible for a cycle of activities which begin before, and conclude after the actual testing. The process of turning out reliable results involves factors which lie outside the actual pathologic examination and there are certain significant problems that can occur within the activities that surround specimen analysis. Error reduction in Surgical Pathology is dependent on understanding of how errors occur and application of error reduction strategies. Elements of quality that are important in Surgical Pathology include: Accuracy, Timeliness and completeness of report. The basic monitors of quality are: (1) The test cycle (pre-analytic, analytic and post-analytic phase), (2) Turn-around time (addresses the issue of timeliness) and (3) Customer/Clinician satisfaction (this measures from the clinician's perspective). A lot of attention is often focused on the actual analysis of the specimen and not much attention is paid to the pre-analytic phase and the important events which take place here and can affect diagnostic accuracy. Events such as Patient/Specimen identification, appropriate fixation/correct collection of specimen and adequate clinical history are

key determinants of quality. In this study, focus is on Clinical history which has been shown to affect the accuracy and completeness of pathology reports. Few reports have attempted improvement of adequate Clinical history received with specimens. Using endometrial curetting specimens, this study aims to examine this very important determinant of diagnostic accuracy and give an insight into the extent of the problem.

MATERIALS AND METHODS

A retrospective study reviewing a hundred and twenty-six consecutive pathology requisition forms accompanying endometrial curetting submitted to the histopathology department of the University of Calabar Teaching Hospital (UCTH) from January 2004 to December 2007. Each requisition was analysed for presence and adequacy of information regarding: Age, indication for dilation & curettage, menstrual history (of paramount importance is last menstrual period duration & length of cycle) and hormonal history. Inadequate information is defined as the pathologist's need for additional clinical information absence of which has the ability to introduce wrong diagnosis regardless of the amount of information already present on the requisition slip. Data obtained was analysed using simple descriptive methods.

RESULT

Total number of endometrial curetting sampled was 126. The age range of study population was 17-62 yrs, while peak age incidence was 4th decade **(Figure 1)**.

Indicatios for procedure were as follows: **I**nfertility – 61 (48.4%), Bleeding PV (intermenstrual, menorrhagia, post-coital, post menopausal) – 57 (45.2%) Others – such as abortion -3, amenorrhea 3, bulky post-menopausal uterus 2, unstated 1 were 8 (6.4%) **(Figure 2)**.

The only clinical information that appeared on all request was patient's name. Indication for surgery and clinical impression was almost always supplied Most consistently provided information was last menstrual period while the least provided info (0.8%) was contraceptive/hormonal history **(Figure 3)**.

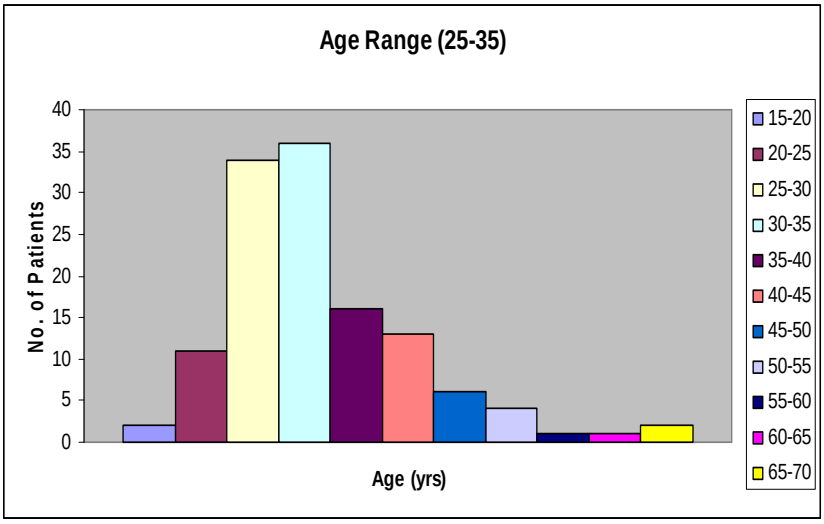

Figure 1: The Age Range of Study Population

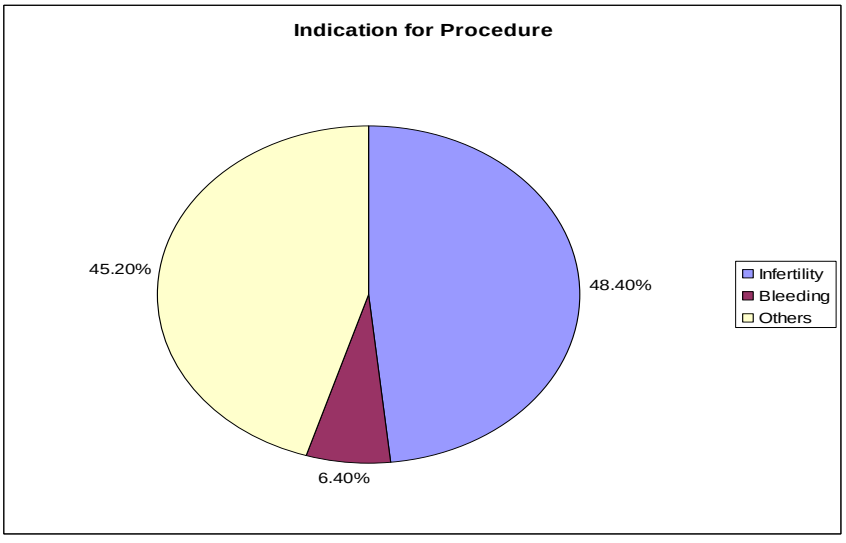

Figure 2: Indications for Procedure

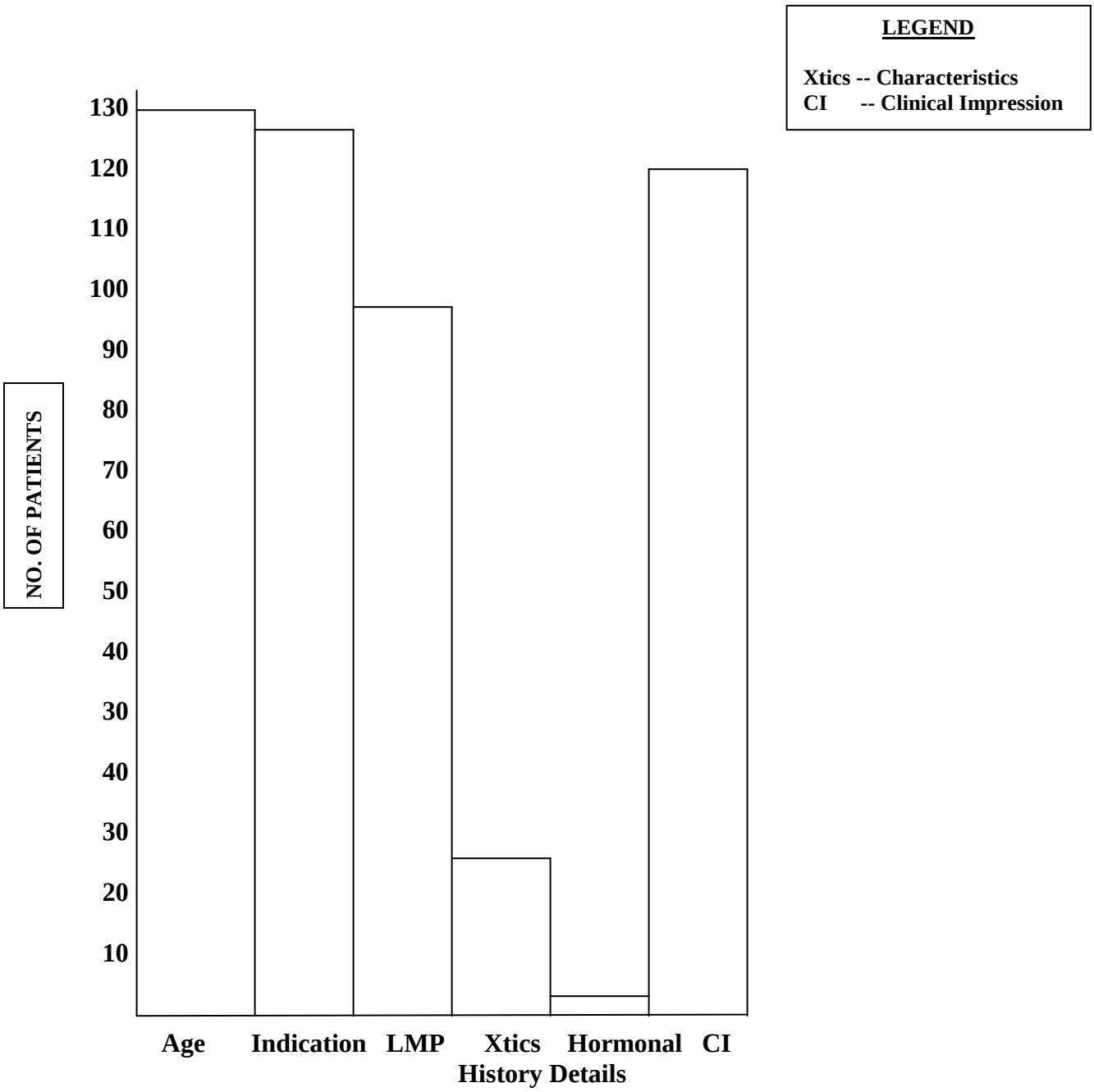

Figure 3: Clinical Information

DISCUSSION

Importance of clinical information in arriving at accurate diagnosis in certain cases cannot be over emphasized. A Study of 771,475 cases from 341 institutions showed that reports were delayed in 32% of the cases because additional clinical information was required to make a diagnosis. In 6.1% of the cases the diagnosis was substantially changed or a revised report was issued after obtaining adequate information [**2]**. Another study showed 10% of amended reports resulted directly from additional clinical information unknown to the pathologist at the time of original sign-out. An additional 20% of cases came to the pathologist's attention because of a clinicopathologic discrepancy recognized by the clinician [**3-5]**. A review of malpractice claims uncovered problem areas in pathology practice and showed that failure to obtain all relevant information contributed to one fifth of the diagnostic errors [**6, 7]**.

Examination of endometrial curetting is one of the best examples of the importance of correlating microscopic features with clinical information. Relevant clinical information such as contraceptive and hormonal history have a direct bearing on interpretation of endometrial curetting especially when indication for such a procedure is a part of infertility workup. Such omissions are responsible for delays in reporting and increased possibility of clinical mismanagement. Minimum clinical information required for interpretation of EMB includes: Age, Last Menstrual Period(LMP) & characteristics of LMP, Indication for curetting , Hormonal and contraceptive history and pertinent prognostic features. These should be provided in as accurate a manner as possible.

The limitation of this study is the fact it is not able to establish the exact degree of inaccuracy of the pathology report as information on treatment outcome is unavailable

CONCLUSION

Considering the role of histopathology diagnosis in informing the vast majority of treatment decisions made by clinicians, there is a need to re-emphasize the value of patient relevant clinical information as a quality control measure.

Clinicians need to be made aware of their primary responsibility to request histopathology services appropriately for the benefit of the patient. We need to do away

with the outdated idea that providing clinical information prejudices the pathologist, we need to understand that reasoning in the laboratory follows a clinical logic not a technological logic [**8]**. Using the words of George Bernard Shaw "*Sending a specimen to the pathologist without clinical information is a subtle tribute to his omniscience, but diagnostically worthless*"

REFERENCES

[1] Rosai J, Introduction in Rosai J, ed. Ackerman's Surgical pathology, St Louis, Mosby, 1996, 1-12

[2] Nakhleh RE, Gephardt G, Zarbo RJ, Necessity of clinical information in Surgical pathology: a College of American Pathologists Q-Probes study of 771475 surgical pathology cases from 341 institutions, Arch Pathol Lab Med., 123, 1999, 615-19.

[3] Nakhleh RE, Zarbo RJ, Amended reports in surgical pathology and implications for diagnostic error detection and avoidance: a College of American Pathologists Q-Probes study of 1667547 accessioned cases in 359 laboratories, Arch Pathol. Lab Med., 122, 1998, 303-309.

[4] Vido JR, Adam RL, Lorand-Metza IGH, Metze K, Computerized texture analysis of atypical immature myeloid precursors in patients with myelodysplastic syndrome: an entity between blasts and promyelocytes, Diagn Pathol., 6, 2011, e93. Doi. 10.1186/1746-1598-6-93.

[5] Gill M, Singh U, Mahapatra QS, Gehlot S, Gupta V, Sen R, Role of argyrophilic nucleolar organizer region staining in identification of malignant cells in effusion, J. Cytol., 28(4), 2011, 191-195.

[6] Troxel DB, Sabella JD, Problem areas in pathology practice: uncovered by review of malpractice claims, Am J Surg Pathol., 18, 1994, 821-831.

[7] Kamemoto L, Misra AK, Sharma SK, Goodman MT, Luk H, Dykes AC, Acosta T, Near-infrared micro-raman spectroscopy for in vitro detection of cervical cancer, Appl. Spectrosc., 64(3), 2010, 255-261, Doi: 10.1366/000370210790918364.

[8] Burton JL, Stephenson TJ, Are clinicians failing to supply adequate information when requesting a histopathological investigation? Short report, J Clin. Pathol., 54, 2001, 806-808.