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Histopathological Characteristics of Endometrial Biopsies in the Igbos of Nigeria

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Abstract

Background: Geographical approach in medical research has revealed important patterns of diseases. Many ethnic groups remained to be explored worldwide. **Objective:** To study the histopathological characteristics of endometrial biopsies in the Igbos of Nigeria. **Methodology:** A retrospective analysis of the records of the histopathological department of the National Orthopaedic Hospital, Enugu between January and December 2014. The sociodemographic characteristics of the patients, clinical summaries and the histological diagnosis on endometrial tissues were extracted from the records of the histopathology department. **Results:** A total of 330 endometrial tissue samples were analysed. The age range was 20-75 years with a mean of 36.2±14 years. The parity ranged from 0-9±4. Secretory endometrium (56.1%), products of conception (7.6%) and proliferative endometrium (5.2%) were the commonest histopathological diagnosis whereas infertility (61.2%) was the commonest indication for requesting for endometrial biopsy. **Conclusion:** There are recognizable histopathological patterns of endometrial pathologies amongst the Igbos. These patterns are not at great variance with those in other black communities in the developing parts of Africa and the rest of the world.

Keywords: Endometrial biopsies, Igbos, Histopathology, Nigeria.

INTRODUCTION

Geographical approach in medical research has revealed important patterns of diseases [1]. Many ethnic groups remained to be explored worldwide. Amongst them are the Igbos [2,], a group identified by Basden [4] as a major group in Nigeria. The Igbo people, formerly known as Ibo are an ethnic group of South-eastern Nigeria [1]. They speak Igbo, which includes various Igboid languages and dialects [6,]. The Igbo people are one of the largest ethnic groups in Africa [8]. In rural areas of Nigeria, Igbo people are mainly craftsmen, farmers and traders. The most important crop is yam; celebrations are held annually to celebrate its harvesting [9]. Other staple crops include cassava and taro [10].

The Sub-Saharan Africa in which this ethnic group resides has come to be regarded as an area in which the natural environment has contributed to the changing patterns of diseases over the years [1]. It is known that one of the rewarding methods of searching for the cause of a disease is through the comparison of its frequency in different communities, in different areas and at different times [1].

It is from the study of geographic pathology of diseases especially tumours which relates the incidence of frequency of various tumour types to the environmental conditions at different areas that an insight might be gained into the aetiology [1].

Tropical diseases were mostly thought to be merely problems of nutrition, infections and parasitic infestations, until the establishment of cancer registries in Africa [12]. The concept that cancer is a rare disease in Africa has been shown to be erroneous.

Ethnicity is a factor in disease distribution [1], and within the same area ,persons living side by side and of different ethnic groups may have different disease frequencies [14]. In the United States of America (USA) where White and Negroes live side by side, cancer of the prostate gland is more prevalent in blacks than in whites [1]. Studies have shown that some diseases have the same trend in Igbos as in Negroes elsewhere [16,17].

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Diagnostic approaches in identifying pathological processes within the uterine cavity are limited. Current histopathological methods employ endometrical sampling such as biopsy from curettage, and aspiration [18]. According to Wallack [19], histologic examination of the endometrium can provide useful information regarding

i. the occurrence and timing of ovulation,
ii. deficiencies of the corpus lutem formation
iii. the presence of endometrial hyperplasia,
iv. the presence of endometrial polyps or malignant neoplasms
v. inflammatory infections lesions of the endometrium and,
vi. intrauterine synaechia.

Endometrial biopsy is attractive because it can be performed in an outpatient setting and is cost effective. The biopsy may be performed with a cutting instrument or by passing a hollow endometrial biopsy curet (e.g. Novak or Handall Curet) into the uterine cavity and using the suction of a syringe to aspirate fragments ofendometrium into the curt [18]. Currently, some form of negative pressure attached to a plastic aspiration core (the Karman's syringe) is the most popular method. The jet washer is another approach to the collection of an endometrial sample [18].

The aim of this study is to characterise the histological patterns of endometrial biopsies in the Igbos of Nigeria.

The Igbos were chosen for this study because they are one of the three major ethnic groups in Nigeria, and since ethnicity has been identified as one of the major factors in disease distribution [13], we set out to see whether the pattern of endometrial pathology in the Igbos is similar to, or at variance with that of other major ethnic groups in Nigeria, and in fact other parts of the world.

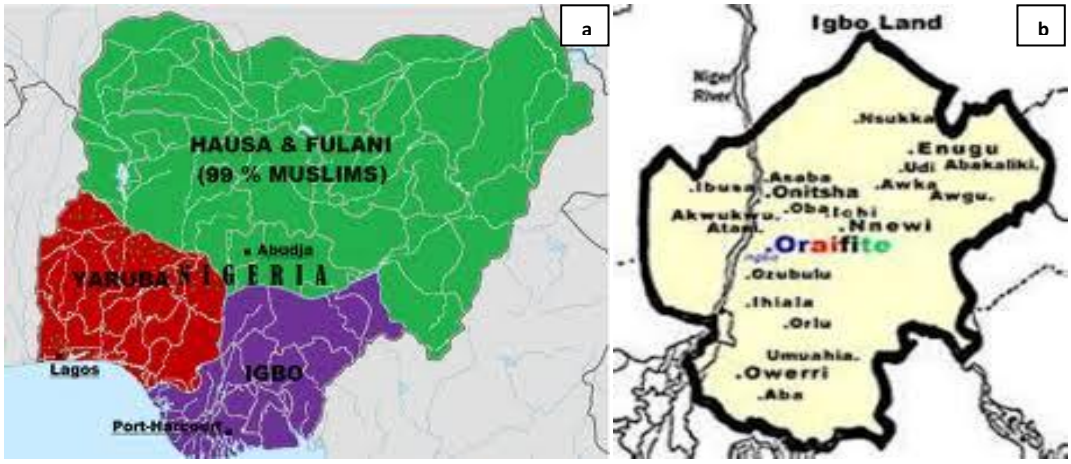

Figure 1: (a) Map of Nigeria showing Igbo Land [10] **(b)** Towns making up Igbo land [10]

MATERIALS AND METHODS

The materials for this study were the histological reports on endometrial tissue specimens sent to a central histopathological laboratory located at the National Orthopaedic Hospital, Enugu. It is a referral laboratory for institutions such as the University of Nigeria Teaching Hospital, Ituku-Ozalla, Enugu; Abia State University Teaching Hospital, Aba; Ebonyi State University Teaching Hospital, Abakaliki and the National Orthopaedic Hospital, Enugu. It also receives surgical specimens from general, mission and private hospitals in Abia, Anambra, Akwa-Ibom, Benue, Cross-River, Ebonyi, Enugu, Rivers and Imo States of Nigeria. Most of these institutions do not have a functional department of surgical pathology.

The reviewed reports were from those examined between January and December 2014. A total of 330 endometrial tissue samples from Igbo patients were analysed.

The reports contained the bio-data of the patients, clinical summaries and diagnoses. Also contained in the reports were the histopathological diagnoses on the specimens. The study was approved by the ethical review committee of the hospital.

The information were analysed using simple percentages.

RESULTS

Threehundred and thirty (330) endometrial tissue samples were analysed during the study period. The age range was 20-75 years with a mean of 34.6±14 years. The parity ranged from 0-9±4.

Secretory endometrium (56.1%), products of conception (7.6%) and proliferative endometrium (5.2%) were the commonest Histopathological diagnosis of the endometrial samples (table 1).

Table 1: Histopathological diagnosis of endometrial biopsies

Histopathological diagnosis	Number	% age
Secretory endometrium	185	56.1
Proliferative endometrium	17	5.2
Products of conception	25	7.6
Atypical hyperplasia	23	7.0
Adenomatous hyperplasia	16	4.8
Hydatidiform mole	9	2.7
Chronic non-specific endometritis	14	4.2
Senile cystic endometritis	7	2.1
Tuberculousendometritis	3	0.9
Adenocarcinoma	15	4.5
Endometrial polyp	8	2.4
Strong sarcoma	3	0.9
Others	5	1.5
TOTAL	330	100

Infertility was the commonest indication for requesting for endometrial biopsy, followed by irregular uterine bleeding (15.8%) and incomplete miscarriage (7.6%) [table 2].

Primary infertility was the commonest in the 20-29 years age bracket (51.3%) whereas secondary infertility was commonest in the 30-39 age bracket (78.7%) [table 3]. Table 3 also shows that patients with post-menopausal bleeding were in their 5th decade of life and above.

Secretory endometrium was most commonly found in the 30-39 years age bracket (53.0%) [table 4]. Table 4 also shows that hydratidiform mole was most exclusively a diagnosis of the 20-29 years bracket (100.0%) whereas adenocarcinoma occurred in patients in their 5th decade of life and beyond.

Table 2: Indications for sending endometrial biopsies

Indications	Number	% age
Primary subfertility	113	34.2
Secondary subfertility	89	27.0
Irregular uterine bleeding	52	15.8
Incomplete miscarriage	25	7.6
Menorrhagia	22	6.7
Oligomenorrhoea	13	3.9
Post menopausal	10	3.0
Polymenorrhooea	6	1.8
Total	330	100

Table 3: Age group distribution and clinical diagnosis of endometrial biopsies

Clinical diagnosis	Age (%) Total	20-29	20-29	40-49	50-59	≥60
Primary subfertility	58(51.3)	51(45.3)	4(66.7	-	-	113
Secondary subferility	16(18.0)	70(78.7)	3(3.4)	-	-	89
Irregular uterine bleeding	14(26.9)	27(51.9)	11(21.2)	-	-	52
Incomplete miscarriage	17(68.0)	8(32.0)	-	-	-	25
Menorrhagia	19(86.4)	-	-	3(13.6)	-	22
Oligomenorrhoea	9(69.2)	1(7.7)	2(15.4)	1(7.7)	-	13
Postmenopausal bleeding	-	-	-	3(30.0)	7(70.0)	10
Polymenorrhoea	2(33.3)	4(66.7	-	-	-	6

Table 4: Age group distribution and Histopathological diagnosis of endometrial biopsies

Histopathological diagnosis	Age distribution(years) and percentage					
	20-29	20-29	40-49	50-59	≥60	Total
Secretory endometrium	82(44.3)	98(53.0)	5(2.7)	-	-	185
Proliferative endometrium	8(22.2)	28(77.8)	--	--	--	36
Products of conception	14(56.0)	11(44.0)	--	--	--	25
Atypical hyperplasia	--	--	1.4 (60.9)	9(39.1)	--	23
Adenomatous hyperplasia	9(56.3)	7(43.8)	--	--	--	16
Hydatidiform mole	9(100.0)	--	--	--	--	9
Chronic endometritis	8(57.1)	6(42.9)	--	--	--	14
Senile cystic endometritis	--	--	--	--	7(100.0)	7
Adenocarcinoma	--	--	--	2(13.3)	13(86.7)	15

DISCUSSION

Infertility constituted more than half of the indications for endometrial biopsy in the 330 patients analysed. Out of this number, 91.6% had a normal secretary endometrium indicative of adequate ovulatary function, while 8.4% showed a proliferative pattern suggestive of anovulation. These findings are in agreement with the other studies inSub-Saharan Africa [20-22]. The African traditional society places a high premium on the size of the family, be it nuclear or extended. In a situation where a couple is unable to reproduce, infertility becomes a major social, emotional and psychological burden and a leading cause for gynaecological consultations [23-25]. Tubo-peritoneal factor is the leading cause of subfertility in the African setting, and this is closely followed by anovulation which account for about 10-15% of the cases of infertility [21,23,26,27]. Endometrial dating has been viewed as the standard method of presumptive assessment of ovulatory function and luteal phase dysfunction since it directly evaluates the end organ response [28]. Furthermore, studies [29,30] have shown that abnormalities of secretary transformation in the endometrium correlates very well with progesterone assay as a presumptive means of assessing ovulation as well as diagnosing luteal phase defect.

In Jos [31], pregnancy related diagnosis (54.3%) and endometrial hyperplasia (17.5%) were the commonest endometrial abnormalities.

In this Igbo study, endometrial anomalies, inflammatory and non-inflammatory were detected by endometrial biopsies. These include: endometrial hyperplasia, endometrial polyp, hyatidiform mole, chronic endometritis and adenocarcinoma. This is also the observation of other authors [20-22]. Adenocarcinoma (4.5%) was the commonest carcinoma identified. Thisis similar to the finding in Ibadan [22] but differs from that in Jos [31] where choriocarcinoma (1.8%) was the commonest malignancy identified. All the patients with adenocarcinoma were beyond the 5th decade of life and falls within the age group identified for the Igbos in an earlier study [32] and other racial groups [22,31, 32]. The incidence of hydatidiform mole was commonest in patients under age of 30 years. This is also the experience of other workers [20-22].

CONCUSION

This study has shown that there are recognizable histopathological patterns of endometrial pathologies amongst Igbos. These patterns are not at great variance with those of other black communities in the developing parts of Africa and the rest of the world.

Conflict of Interest

The authors have no conflict of interest.

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