

Pattern of Gynaecological Emergencies in Enugu State University of Science and Technology Teaching Hospital, Enugu, Southeast, Nigeria

Innocent Igwebueze Okafor^{*1}, Innocent Anayochukwu Ugwu¹,
Franklin Ikenna Agbo¹

Department of Obstetrics and Gynaecology, Enugu State University of Science and Technology College of Medicine/Teaching Hospital, (ESUTTH) Enugu, Nigeria

**1 Corresponding author: Innocent Igwebueze Okafor*

Department of Obstetrics and Gynaecology, Enugu State University of Science and Technology College of Medicine/Teaching Hospital, Enugu, Nigeria. Email: okaforii@yahoo.com Phone: +2348034006918

Abstract

Aims: To determine the pattern of gynaecological emergencies in ESUTTH, Enugu; and generate statistics for budgeting and development of the new unit. Literature reviews on common emergencies were done.

Method: The gynaecological emergency register was reviewed retrospectively from May 31, 2017 back to April 1, 2016. Data on patient's age, parity, provisional diagnosis, modes of care, and procedures offered patients were extracted from the register and analysed with Excel 2007 software. The results were presented in tables, percentages and figures.

Results: A total of 259 patients were seen. Majority of them were of age ranges of 20-29years 106(40.9%) and 30-39years 108(41.7%) respectively. The patient's parities were: nulliparous 98(37.8%), multiparous 141(54.4%) and Para ≥ 5 20(7.7%). A total of 149 (57.6%) abortions presented to the clinic. The various types of the abortions were: incomplete 66(25.5%), threatened 58(22.4%), complete 9(3.5%), missed 10 (3.9%) and inevitable 6(2.3%). Symptomatic fibroid 18(6.9%), ovarian cyst 15(5.8%), ectopic pregnancy 11(4.3%), cervical cancer 6(2.3%), pelvic inflammatory disease 8(3.1%), sexual assault 5(1.9%). and other cases 47(18.1%) accounted for the rest of the emergencies. Majority 219(85.2%) of the patients had no surgical procedure while 33(12.7%) had manual vacuum aspiration, and 7(2.7%) had exploratory laparotomy. Most 169(65.2%) of the patients were managed as outpatients while 90(44.2%) were in-patients.

Conclusion: Abortions accounted for more than half of the diagnoses in this study. Resuscitative facilities like intravenous fluid, drugs, oxygen, anti-shock garments, blood; and diagnostic equipment like pregnant test, ultrasonography, laparoscopy, and hysteroscopy should be available in the new clinic. They are essential for prompt diagnosis, resuscitation, treatment; and for teaching medical students and hands-on-learning by resident doctors. The manual vacuum aspiration room should be equipped to cope with the emergencies. Contraceptive methods including post-abortion intra uterine contraceptive device, injectable, and sub dermal implants should be available.

Keywords: Pattern, Gynaecological emergencies, Development, Enugu,

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I. INTRODUCTION

Gynaecological emergencies are disease conditions of the female reproductive system that threaten the life of the woman, her sexual functions and her fertility. In developed countries with good health infrastructure and diagnostic tools, such emergencies are managed in equipped specialist emergency gynaecological units that provide swift-integrated interventions in terms of prompt diagnosis and treatment to minimize adverse outcomes. The services are women-friendly and open 24hours every day. The units are manned by specialist nurses, sonologists, laboratory scientists and gynaecology team headed by a consultant gynaecologist. In USA, gynaecological emergencies account for 1.4 million visits to emergency department and 24.3 visits per 1000 women of reproductive age [1].

In the contrary, gynaecological emergency units in developing countries are relatively new, poorly equipped with resuscitative and diagnostic facilities, only availability in some teaching hospitals, costly and patients access them late and as the last resort. The clinics are open 8am to 4pm Monday to Friday only. Gynaecological emergencies constitute significant public health problems in the tropics [2]. About 30% of

emergency abdominal operations in Africa are due to obstetric or gynaecological conditions [3, 4]. These emergencies are usually classified as pregnancy related or non-pregnancy related [5]. Pregnancy-related emergencies are commonly ectopic pregnancy, miscarriage and unsafe abortion while non-pregnancy related emergencies include acute pelvic inflammatory disease, torsion of ovarian cyst, menstrual disorders, gynaecological malignancies, coital laceration and sexual assault. These common conditions should be suspected first when patients present as gynecological emergencies, and should be excluded before considering less common cases [6]. Advances in ultrasound, pregnancy tests, laparoscopy, hysteroscopy, antibiotics and more specialists in such emergency department, however, have led to prompt diagnosis and increased treatment options [7]. We studied the pattern of gynaecological emergencies in ESUTTH, Enugu to enable us generate statistics for planning and budgeting for the effective running of the new clinic.

II. MATERIALS AND METHODS

ESUTTH is owned by the Enugu state and it is accredited for training both medical students and resident doctors. It is a tertiary hospital that serves Enugu state and its neighbouring states. The obstetrics and gynaecology department has two professors, a reader, 9 consultants and 18 resident doctors. The department provides healthcare in areas of obstetrics, general gynaecology, gynaecology oncology, urogynaecology, reproductive health, family planning and gynaecological emergencies. A senior register, a register, two house officers and two nurses run the gynaecological emergency clinic in a-month-rotatory basis from Monday to Friday 8am to 4:00pm since its inception on April 1, 2016. They attend to the gynaecological emergencies that present during these periods. Other gynaecology emergencies that present to the hospital outside this period are seen in the accident and emergency department, and consults sent to the obstetrics and gynaecology department.

Method

The gynaecological emergency register in the clinic was reviewed from April 1, 2016 to May 31, 2017. Data on patient's age, parity, provisional diagnosis, modes of care, and procedures offered patients were extracted from the register and analysed with Excel 2007 software. The results were presented in tables, percentages and figures.

III. RESULTS

Two hundred and fifty nine (259) patients were seen in the gynaecological emergency clinic during the study period. Table 1 showed the age ranges of patients were: 30-39 years 108(41.7%), 20 -29 years 106(40.9%), and 40- 49 years 29(11.2%). Others were: < 20 year 11(4.2%) and > 49years 5(1.9%). The patients' parities were nulliparous 98(37.8%), multiparous 141(54.4%) and para ≥ 5 20(7.7%). Abortion was the commonest diagnosis as 149(57.6%) of the patients presented with different types of abortion (Table 2 and Figure1). Patients with incomplete abortion were 66(25.5%), threatened abortion 58(22.4%), complete abortion 9(3.5%), missed abortion 10(3.9%) and inevitable abortion 6(2.3%). Symptomatic fibroid were 18(6.9%), ovarian cyst were 15(5.8%), ectopic pregnancy were 11(4.3%), cervical cancer were 6(2.3%), pelvic inflammatory disease were 8(3.1%), sexual assault were 5(1.9%) and other patients were 47(18.1%). Many patients 219(85.2%) did not have any surgical procedure while 33(12.7%) had manual vacuum aspirations, and 7(2.7%) had exploratory laparotomy. 169(65.2%) patients were managed on outpatient basis while 90(44.2%) wereadmitted to the gynaecology ward.

Table 1: Distributions of age and parity of the patients

Age (years)	Number	Percentage (%)
<20	11	4.2
20- 29	106	40.9
30- 39	108	41.7
40- 49	29	11.2
> 49	5	1.9
Total	259	100
Parity		
Nullipara	98	37.8
Para 1 –4	141	54.4
Para ≥ 5	20	7.7
Total	259	99.9

Table 2: Diagnosis, Modes of care and Procedures offered patients

Provisional diagnosis	Number	Percentage
Incomplete abortion	66	25.5
Threatened abortion	58	22.4
Complete abortion	9	3.5
Missed abortion	10	3.9
Inevitable abortion	6	2.3
Uterine fibroid	18	6.9
Ovarian cyst	15	5.8
Ectopic pregnancy	11	4.3
Cervical cancer	6	2.3
Pelvic inflammatory disease	8	3.1
Sexual assault	5	1.9
Others	47	18.1
Total	259	100
Modes of care		
In-patients	90	34.8
Outpatient care	169	65.2
Total	259	100
Procedures offered patients		
Manual vacuum aspiration	33	12.7
Exploratory laparotomy	7	2.7
None	219	84.6
Total	259	100

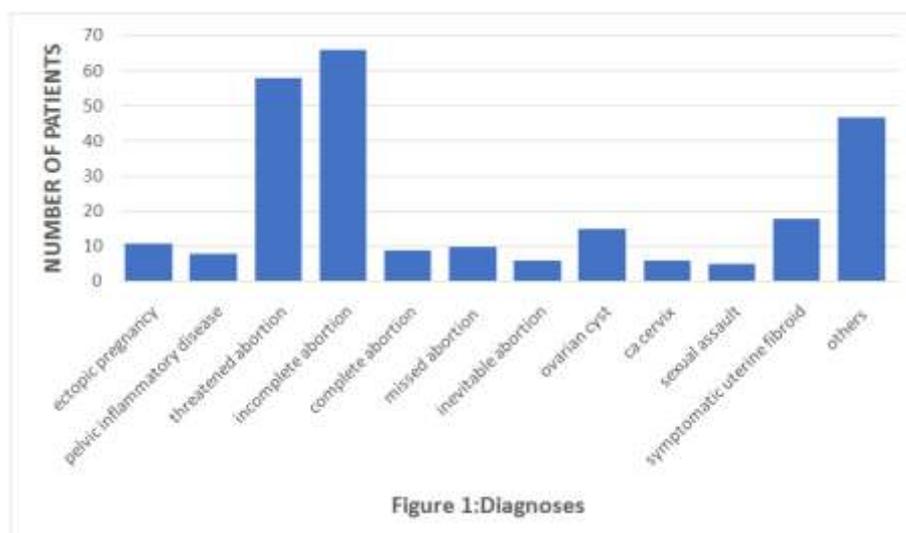


Figure 1: Diagnoses of gynaecological emergencies in ESUTTH, Enugu

IV. DISCUSSION

Abortion accounted for 57.6% of the gynaecological emergencies in this work, and 78.3% of emergencies in a rural general hospital in Kebbi state, Nigeria [6]. Most of these abortions may be unsafe. Unsafe abortions are associated with 13% maternal mortality worldwide [8]. WHO estimated a global annual unsafe abortion rate of 20 million [9, 10] with 98% of them occurring in developing regions [10, 11]. Emergency gynaecological units in the developing countries must prioritize its development and equipment to cope with the burdens of miscarriages and unsafe abortions. Resuscitative facilities like wide bore cannula, intravenous infusions, blood, broad spectrum antibiotics, steroids and anti-shock garments should be available in such specialist centres. Pregnancy tests, ultrasonography, manual vacuum aspirations and misoprostol are important for the diagnosis and emergency treatment of abortion complications. The method of uterine evacuation by dilatation and metal curettage is no longer the choice method because of the associated complications like anaesthetic risks, infection, cervical trauma and insufficiency, uterine perforation, bleeding, decreased fertility and Asherman's syndrome. The components of post abortion care like emergency treatment for complications of spontaneous and induced abortion; post-abortion family planning, and linkages to comprehensive reproductive healthcare,

community and service provider partnerships, counselling, and other health services should be given high priority in the new specialist units [12-14].

Ruptured ectopic pregnancy is a life-threatening condition that requires swift resuscitation, emergency laparotomy and salpingectomy to avert maternal death. It is the leading cause of maternal morbidity and mortality in the early half of pregnancy [15, 16]. The patients usually present late and in shock in the developing countries. More than 4.3% of the gynaecological emergencies in this study presented as ectopic pregnancy, and 5.3% of emergencies in Kebbi state, Nigeria. High index of suspicion of ectopic pregnancy is very important for early diagnosis and intervention to reduce the associated morbidity and mortality. It should always be ruled out when a woman of the reproductive age presents with amenorrhoea and abdominal pain to avoid catastrophic outcome due to the associated haemorrhage. The gynaecology theatre, should be in close proximity to gynaecological emergency units to avoid hospital delays

Uterine fibroid is a benign smooth muscle tumour that arises from the myometrium. It is the commonest tumour found in the human body at death [30]. The risk factors include advance age, nulliparity, pelvic infections and black race [17, 18]. Most fibroids are asymptomatic but 35-50% of them can present with symptoms [18]. These symptoms can arise because of the location, size, degeneration, necrosis, torsion, adenomyosis, and expulsion of pedunculated submucous fibroid through the cervix [19]. Symptomatic fibroids accounted for 6.9% of gynaecological emergencies in this study. The new unit should have a functional ultrasound machine for ease diagnosis of cases. Analgesics, intravenous infusions, blood and definite surgeries like myomectomy, polypectomy and hysterectomy should be available.

Ovarian cysts are responsible for 5.8% gynaecological emergencies in ESUTTH, Enugu during the study period, and 7.9% in Kebbi. The classifications of ovarian tumours are based on the cells of origin, and can be epithelial, dermoid, stromal and germ cell, and 80% tumours of the ovary are benign [20-23]. Ovarian cysts become symptomatic as a result of torsion, haemorrhage, rupture, endometriotic and/or cancerous changes. The contents of ruptured endometriotic and dermoid cysts are extremely irritant and can cause chemical peritonitis, severe abdominal pain, collapse and signs of acute abdomen. Ultrasonography is essential for differentiating the causes of such emergencies. An emergency laparotomy for cystectomy or ovariectomy is often required.

About 1.9% of the emergencies in our study were due to **sexual assaults**. Sexual assault is any form of non-consensual (i.e. forced or coerced) sexual act and need not involve penetration of an orifice [24]. It can result in serious physical, mental, sexual and reproductive health problems for the victim. Unwanted pregnancy, unsafe abortion, and sexually transmitted infections (including human immunodeficiency virus and hepatitis B virus infections) can occur. Post-traumatic stress disorder, depression, suicidal ideation, drug and alcohol abuse are the other common complications. Sexual assault is underreported because of fear of discrimination and stigmatization. The few that present for care do so when there are injuries or fear of becoming pregnant. The genital injury following rape varies between 10%-80% and non-genital injuries vary between 31%- 82% [24]. Risk of pregnancy after rape is about 5% [25]. Over 50% of rapes victims suffer post-traumatic stress disorders [24]. The principles of management include a comprehensive patient assessment, meticulous documentation, counselling, and treatment of genital injury, infections, tetanus prophylaxis, post-exposure prophylaxis for HIV, emergency contraception, vaccination against hepatitis B virus and psychological support [26]. The comprehensive patient assessment should include the date, time, place and nature of assault (e.g. drug assisted rape), patient's appearance, injury, and multiple swabs from the vulva, vagina, cervix, perineum and rectum. The involvements of the police, forensic medical expert and psychiatrist may also be necessary.

Pelvic inflammatory disease (PID) is a spectrum of polymicrobial inflammatory disorders of the upper female genital tract, and consists of endometritis, salpingitis, oophoritis or tuboovarian abscess and pelvic peritonitis. Neisseria gonorrhoea and Chlamydia trachomatis are implicated in most cases. Acute PID is the commonest gynaecological emergency that is not associated with pregnancy [27]. It is responsible for 3.1% of cases seen in ESUTTH, Enugu. Early diagnosis and prompt effective treatment are required to minimize its adverse complications like tubal factor infertility, ectopic pregnancy, tubo-ovarian abscess and chronic pelvic pain. The risk factors are young age, sexually transmitted infections, unsafe abortion, and multiple sexual partners [28]. Laparoscopy is the gold standard for its diagnosis but due to cost, limited access, and risks of surgery its use is limited. Centres for Disease Control (CDC) [29] adopted minimum criteria of: lower abdominal tenderness, bilateral adnexal tenderness and cervical motion tenderness for the clinical diagnosis of PID. Other additional criteria that support the diagnosis of PID include: temperature > 38.3°C, abnormal cervical or vaginal discharge, elevated erythrocyte sedimentation rate, elevated C-reactive protein, documented cervical infection with *N. gonorrhoeae* or *C. trachomatis*. In selected cases, definitive diagnostic criteria include: laparoscopic findings suggestive of PID, histopathological evidence of endometritis on endometrial biopsy, and imaging technique showing thickened fluid-filled tubes with or without free pelvic fluid or tubo-ovarian complex. The CDC criteria have sensitivity of 83% [7], while laparoscopy, abdominal and transvaginal ultrasound have 78% and 80% sensitivity respectively [30]. Ultrasonography can also exclude other differential diagnoses like ectopic

pregnancy and tubo-ovarian abscess. The treatment is usually empirical. The Outpatient and inpatient regimens choice of antibiotics should cover *N. gonorrhoeae*, *C. trachomatis*, aerobes and anaerobes [36].

Outpatient regimens include:

- Oral ofloxacin 400 mg twice daily plus metronidazole 500 mg twice daily for 14 days
- Intramuscular (IM) ceftriaxone 250 mg single dose or IM cefoxitin 2 g single dose with oral probenecid 1 g, followed by oral doxycycline 100 mg twice daily plus metronidazole 400 mg twice daily for 14 days

Inpatient regimens include:

- Cefoxitin IV 2 g 6 hourly plus doxycycline 100 mg orally 12 hourly, followed by oral doxycycline 100 mg twice daily plus metronidazole 400 mg twice daily for a total of 14 days
- Clindamycin IV 900 mg plus gentamycin (2mg/kg loading dose followed by 1.5 mg/kg 8 hourly or as an equivalent single daily dose), followed by either oral clindamycin 450 mg orally four times daily or oral doxycycline 100 mg twice daily plus oral metronidazole 400 mg twice daily to complete 14 days treatment

The goals of treatment are to relieve the acute symptoms and prevent long term complications. Contact tracing and treatment are important part of the treatment. Very few **procedures** were recorded for the patients. Only 33/82 (40.2%) of patients that required manual vacuum aspirations had the procedures. May be many of the abortion cases absconded or rejected the procedures on account of the misconceptions that associate such procedure to infertility. Some may have chosen medical method of uterine evacuation with the commonly available misoprostol at home. Again seven laparotomies were recorded for 11 ectopic pregnancies and 15 ovarian cysts. This is a retrospective study and it appears that many of the procedures were not recorded in the clinic register.

V. CONCLUSION

Abortions accounted for more than half of the diagnoses in this study. Other common emergencies include ruptured ectopic pregnancy, symptomatic uterine fibroid, pelvic inflammatory disease, and sexual assaults. Resuscitative facilities like intravenous fluid, drugs, oxygen, anti-shock garments, blood; and diagnostic equipment like pregnant test, ultrasonography, laparoscopy, and hysteroscopy should be available in the new clinic. They are essential for prompt diagnosis, resuscitation, treatment; and for teaching medical students and hands-on-learning by resident doctors. The manual vacuum aspiration room should be equipped to cope with the emergencies. Contraceptive methods including post-abortion intra uterine contraceptive device, injectable, and sub dermal implants should be available.

REFERENCES

- [1] Curtis KM, Hilis SD, Kieke BA et al. Visits to Emergency Departments for Gynaecologic Disorders in the United States 1992 – 1994. *Obstet Gynecol* 1998; 91 (6):1007 – 1012.
- [2] Fawole AO and Awonuga DO. Gynaecological Emergencies in the Tropics: Recent Advances in Management. *Annals of Ibadan Postgraduate Medicine*. Vol.5 No1 June., 2007 pp12-20.
- [3] McConkey SJ. Case series of acute abdominal surgery in rural Sierra Leone. *World Journal of Surgery* 2002; 26(4): 509-513.
- [4] Awori MN, Jani PG. Surgical implications of abdominal pain in patients presenting to the Kenyatta national Hospital casualty department with abdominal pain. *East Afr Med J* 2005;82(6):307-10
- [5] Hassim AM. Ectopic pregnancy. In: Lawson JB, Harrison KA and Bergs tron S. Editors. *Maternity Care in Developing Countries*. London: RCOG Press, 2001: Pg 291-301.
- [6] D Buowari. Pattern and outcome of gynaecological emergencies at a Nigerian secondary Health Care Centre. *The Internet Journal of Tropical Medicine*. 2009 Volume 6 Number 2.
- [7] Ramphal SR, and Moodley J. Emergency Gynaecology. *Best Pract Res Clin Obstet Gynecol* 2006; 20 (5): 729 – 750.
- [8] World Health Organization. *Maternal mortality in 1995. Estimates developed by WHO, UNICEF and UNFPA*. WHO/RHR/01.9. Geneva, WHO, 2001.
- [9] World Health Organization. *Safe abortion. Technical and Policy Guidance for Health Systems*. Geneva, WHO, 2003.
- [10] Sedgh G, Henshaw S, Singh S, Ahman E, Shah I. Induced abortion: estimated rates and trends worldwide. *Lancet*, 2007, 370(9595): 1338-45.
- [11] World Health Organization. *Unsafe abortion: global and regional estimates of incidence of unsafe abortion and associated mortality in 2008*. Sixth edition. Geneva, WHO, 2011.

- [12] Greenslade FC, McKay H, Wolf M, McLaurin K. Post-abortion care: a women's health initiative to combat unsafe abortion. *Adv Abort Care* 1994; 4 (1): 1 – 4.
- [13] Postabortion Care Consortium Community Task Force. Essential elements of postabortion care: An expanded and updated model. *PAC in Action*, 2002. Number 2, Special supplement.
- [14] Corbett MR, Turner KL. Essential elements of post-abortion care: Origins, evolution and future direction. *Int Fam Plann Persp* 2003; 29 (3): 106 – 111.
- [15] Olarewaju RS, Ujah IAO, Otubu JAM. Trends in ectopic pregnancy in the Jos University Teaching Hospital, Jos, Nigeria. *Nig J Med* 1994, 26:57-60.
- [16] Grimes DA. The morbidity and mortality of pregnancy. Still risky business. *Am J Obstet Gynecol* 1994;170:1489-1494.
- [17] Whitefield CR, Benign tumours of the uterus. In: Whitefield CR ed. *Dewhurst's Textbook of Obstetrics and Gynaecology for Postgraduate*, 5th ed. Blackwell science, 736-746.
- [18] Memarzadeh S, Broder MS, Wexler AS. Benign disorders of the uterine corpus. In: Decherney AH, Nathan L, Eds. *Current Obstetrics and Gynecology Diagnosis and Treatment*. International Edition. 9th ed. 2003. Lange. 693-707
- [19] Saxena R. Menorrhagia due to leiomyomas. In: Saxena R. *Bedside Obstetrics and Gynaecology*, 2nd edition Jaypee Brothers Medical Publishers, New Delhi, 2014, 691-737.
- [20] Russel P, Bannatyne P. *Surgical pathology of the ovaries*. Churchill Livingstone, Edinburgh, 1989.
- [21] Serov SF, Scully RE, Sobin LH. International histological classification of tumours. No 9. Histological typing of ovarian tumours, WHO, Geneva, 1973.
- [22] Bhatia N. Tumours of the ovary. In: Jeffcoates *Principles of Gynaecology*. International Edition (5th). 2001 Arnold. 503-540.
- [23] Cotran RS, Kumar V, Collins T. Ovarian tumours. *Robbins Pathological basis of disease*. 1999, 6th edition. 1065-1079.
- [24] Gribbin C. Sexual assault and rape. *Curr Obstet Gynecol* 2004; 14: 356 – 362.
- [25] Holmes MM. Rape related pregnancy: estimates and descriptive characteristics from a national sample of women. *Am J Obstet Gynecol* 1996; 175: 320 – 325
- [26] National Guidelines on the Management of Adult Victims of Sexual Assaults 2001; Available at www.bshh.org.uk.
- [27] Murphy AA, Nager CW and Wujek JJ. Operative laparoscopy vs laparotomy for the management of ectopic pregnancy: a prospective trial. *Fertil Steril* 1992; 57: 1180-1185.
- [28] Hamoda H, Bignell C. Pelvic infections. *Curr Obstet Gynaecol* 2002; 12: 185 – 190.
- [29] Centre for Disease Control and Prevention. Sexually transmitted disease treatment guidelines. Recommendation and reports *MMWR* 51 (2002) (RR-6)
- [30] Ignacio EA, Hill MC. Ultrasound of the acute female pelvis. *Ultrasound Q* 2003; 19: 86-98.

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