Elective Gynaecological Surgeries in Aminu Kano Teaching Hospital, Kano, Nigeria: a 5-year review

Usman AU, Natalia A, Ibrahim DM

ABSTRACT

Background: Elective surgeries include procedures done to correct non-life-threatening medical problems as well as to alleviate conditions causing psychological stress or other potential risks to patients. This study described the pattern of elective Gynaecologic surgeries conducted in Obstetrics and Gynaecology department of Aminu Kano Teaching hospital, over a five-year period**.** **Objective:** To describe the pattern of elective gynaecologic surgeries conducted in Obstetrics and Gynaecology Department of our hospital over a five-year period. **Methods:** A retrospective study of all elective surgical procedures conducted at the Obstetrics and Gynaecology department of Aminu Kano Teaching hospital from 1st September, 2012 to 31st August, 2017 was conducted. Theatre operation register and gynaecological ward admission records were retrieved and reviewed. Information extracted include: age of patient, indication for the surgery, type of surgery conducted, nature of procedure (minor, intermediate and major), the cadre of surgeon and assistant(s) performing the surgery and the type of anaesthesia used for the surgery. **Results:** The total number of elective gynaecologic surgeries conducted over the study period was eight hundred and two (802) accounting for 19.4% of all surgical procedures. Uterine fibroid was the commonest indication for surgery with myomectomy being the commonest surgical procedure performed constituting 181(30%) of all gynaecologic operations. Hysterectomy was the second commonest procedure 115 (19%) indicated most commonly by uterine fibroids 53(46%). **Conclusion:** This study demonstrated 19.4% prevalence of elective gynaecological procedures in our centre. Consultants are the leading surgeons in most of the procedures and a significant association was found between the nature of the procedure and the cadre of surgeon. There is need to strengthen the postgraduate training of Resident doctors by exposing them to more hands-on training on major procedures.

Key words: Elective, gynaecological surgery, procedure

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Introduction

Gynaecologic surgeries are one of the commonest surgical procedures performed worldwide. In 2006, six of the top ten surgical procedures in United States were Obstetrics and Gynaecologic in nature.[1] In Nigeria, commonly performed procedures include myomectomy, hysterectomy (abdominal and vaginal routes), ovarian cystectomy and vesicovaginal fistula repairs among others.[2] Uterine fibroids were reported to constitute about 21 – 24% of all gynaecological operations in Nigeria.[3,4,5]

Elective surgeries include procedures done to correct nonlife-threatening medical problems as well as to alleviate conditions causing psychological stress or other potential risks to patients. These surgeries are normally scheduled. The patient is prepared well prior to the operation day and the surgery could be postponed without immediate danger to the patient. Elective operations have been shown to have better outcomes in terms of morbidity and mortality than emergency operations.[6]

Our hospital, being a tertiary institution is involved in post graduate surgical training. Effectiveness of training could sometimes be deducted from the

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number of surgeries performed by various cadres of trainee doctors.

An audit of gynaecological procedures in our hospital was first conducted in 2015 by IU Takai *et al*.[2] It was a one year retrospective study that looked at gynaecological procedures in general. Such audit of all gynaecological surgeries may hinder appropriate extrapolations and deductions as the nature and preparedness of elective and emergency procedures differ. We therefore felt it is necessary to conduct an individual review of only elective gynaecological procedures. This study looked at elective gynaecological procedures over a 5 year period so as to detect changes in progress and performance. This may also help in identifying gaps in services and training.

Objectives

The aim of this study was to describe the pattern of elective gynaecologic surgeries conducted in Obstetrics and Gynaecology Department of Aminu Kano Teaching hospital from 1st September, 2012 to 31st August 2017. The specific objectives were to describe the age distribution of the patients, the prevalence of the various elective gynaecologic procedures over the given period, to describe the various indications and cadre of surgeons that performed the procedure and to describe the type of anaesthesia used.

Methods

A retrospective study of all elective surgical procedures performed at the Obstetrics and Gynaecology department of Aminu Kano Teaching hospital from 1st September, 2012 to 31st August, 2017 was conducted. A total of 802 patients had elective gynaecological surgeries during the study period. Theatre operation register and gynaecological ward admission records of 604 patients were retrieved and analyzed, given a retrieval rate of 75.3%.

A proforma was used to extract the following data: age of the patient, indication for the surgery, type of surgery conducted, nature of the procedure (minor, intermediate and major), the cadre of surgeon and assistant(s) performing the surgery and the type of anaesthesia used for the surgery. Patients with incomplete data in the registers were excluded. The total number of all gynaecological surgeries as well as the total number of procedures conducted in the department over that given period was obtained. The data was collated and analysed using SPSS version 21. Descriptive statistics were presented using tables.

Results

There were 4,131 surgical procedures conducted in the department during the study period. A total of 1,802 gynaecological procedures were conducted and 802 of these were elective surgeries. Hence, gynaecologic surgeries contributed 43.6% of procedures and elective gynaecologic procedures accounting for 19.4% of all surgical procedures performed in the department.

The patients' age ranged from 2 to 87 years with a mean age of 37.5(SD±13.5) years. Majority 188(31.9%) of the operated patients belonged to the 30 – 39 age group (Table 1).

Majority of the procedures, 514 (85.1%) were done for benign conditions while 90 (14.9%) procedures were performed for malignant conditions (Table 1).

Table 1 also showed that Uterine fibroid was the commonest indication for surgery and accounted for 234(38.7%) cases. Other common indications were ovarian cyst/tumour 65 (10.8%), uterine prolapse 47(7.8%) and genital tract malignancies which include ovarian, endometrial, cervical and vulval cancers accounting for 67(11.1%) of the procedures.

Myomectomy for uterine fibroids was the commonest surgical procedure performed constituting 181 (30%) of all gynaecologic operations over the study period. This was followed by hysterectomy 115(19%), ovarian cystectomy/oophorectomy 42 (7%), colpoperineorrhaphy 40(6.6%) and obstetric fistula repair which accounted for 35 (5.8%) of all elective gynaecologic surgeries as shown in Table 2.

The commonest indication for hysterectomy was uterine fibroid. Details of other indications were shown in Table 3.

In most of the procedures (67.5%), the leading Surgeon was a Consultant Gynaecologist. The Senior Registrars did 193 (32%) procedures while the Junior Registrars performed only 3(0.5%) procedures. These were shown in Table 3.

Majority of the cases (55.1%) were done under general anaesthesia. Details of other forms of anaesthesia used were shown in Table 3.

Most of the surgeries done (68%) were major procedures in nature and were done by the Consultant Gynaecologist. This association was statistically significant. (x^2-16.628 p-0.000). Details were shown in Table 4,5,6.

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TABLES:

Table 1: Age Distribution, Nature of Disease and Indication for Surgery

Age Group	Frequency	Percentage (%)
<10	6	1.0
10 – 19	23	3.8
20 – 29	110	18.2
30 – 39	188	31.9
40 – 49	114	18.9
50 – 59	57	9.4
60 – 69	21	3.5
70+	21	3.5
Not indicated	64	10.6
Total	604	100.0
Nature of Disease		
Benign	514	85.1
Malignant	90	14.9
Total	604	100.0
Indication for Surgery		
Uterine Fibroid	234	38.7
Ovarian Cyst/tumour (benign)	65	10.8
Polyp	26	4.3
Prolapse	47	7.8
Obstetric Fistula	35	5.8
Genital tract malignancies (ovarian, endometrial, cervical & vulval)	67	11.1
Congenital anomalies	26	4.3
Others (Bartholins cyst, Adenomyosis, Ashermans Syndrome etc)	104	17.2
Total	**604**	**100.0**

Table 2: Types of Procedure Performed

Procedure	Frequency	Percentage
Myomectomy	181	30.0
Hysterectomy	115	19.0
Cystectomy/Oophorectomy/Salpingoophorectomy	42	7.0
Colpoperineorrhaphy	40	6.6
Obstetric fistula Repair	35	5.8
Staging Laparatomy/Debulking/Biopsy	27	4.5
Polypectomy	21	3.5
Vaginal Hysterectomy	21	3.5
Excision of transverse septum/imperforate hymen &labial separation	20	3.3
EUA/Biopsy	19	3.1
Vulvovaginoplasty	16	2.6
Adhesiolysis for Ashermans Syndrome	14	2.3
Marsupialisation	11	1.8
Exploratory Laparotomy	7	1.2
BTL	4	0.7
Colpocleisis	4	0.7
Vulvectomy	3	0.5
Others	24	4.0
Total	**604**	**100.0**

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Table 3: Indications for Hysterectomy, Lead Surgeon and Type of Anaesthesia

	Frequency	**Percentage**
Indications for Hysterectomy		
Uterine Fibroid	53	46
Ovarian masses	12	11
Polyp	5	4
Prolapse	1	1
Genital tract malignancies	25	22
Others	19	16
Total	115	100
Lead Surgeon		
Consultant	408	67.5
Senior Registrar	193	32.0
Registrar	3	0.5
Total	604	100.0
Type of Anaesthesia		
General	333	55.1
Spinal	246	40.7
Saddle Block	17	2.8
Epidural	4	0.7
Local	3	0.5
Sedation	1	0.2
Total	604	100.0

Table 4: Nature of Gynaecological Procedure

Nature of Procedure	**Frequency**	**Percent**
Minor	73	12.1
Intermediate	120	19.9
Major	411	68.0
Total	604	100.0

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Table 5: Type of procedure vs cadre of surgeon

Type of Procedure	**Cadre of Surgeon**			**Total**
	Consultant	**S/R**	**Register**	
Hysterectomy	85	30	0	115
Vulvovaginoplasty	16	0	0	16
Excision of transverse septum/imperforate hymen &labial separation	15	5	0	20
Adhesiolysis for Ashermans Synd	11	2	1	14
Marsupialisation	3	8	0	11
Exploratory Laparotomy	6	1	0	7
BTL	4	0	0	4
Colpocleisis	4	0	0	4
Vulvectomy	3	0	0	3
Myomectomy	98	82	1	181
Cystectomy/Oophorectomy/Salpingoophorectomy	27	14	1	42
Polypectomy	10	11	0	21
Obstetric fistula Repair	35	0	0	35
Vaginal Hysterectomy	18	3	0	21
Colpoperineorrhaphy	30	10	0	40
Staging Lap/Debulking/Biopsy	21	6	0	27
EUA/Biopsy	5	14	0	19
Others	17	7	0	24
Total	**408**	**193**	**3**	**604**

Table 6: Nature of Procedure * Cadre of Surgeon Cross tabulation

Nature of Procedure		Cadre of Surgeon		Total
		Consultant	Resident	
	Minor	38	35	73
	Intermediate	96	24	120
	Major	274	137	411
Total		408	196	604

Df-2, χ^2-16.628, p value-0.000

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Discussion

Elective gynaecologic procedures constitute 19.4% of procedures conducted in the department. This was higher than the prevalence of 4.0% reported in 2015 in the same centre by Takai *et al*.[2] However, that study was a one-year audit and was done at a time when there was recurrent strike in the health sector with consequential poor turnover of patients in tertiary health centres. Similar figures were, however, reported in the same centre by Yakasai *et al*[7] and in Zaria[8] and Jos[9] both in Northern Nigeria.

The mean age of the patients undergoing an elective gynaecologic procedure of 37.5 (SD±13.5) years is comparable to the finding of 39 (SD±14) years reported in the United States.[10] However, the mean age is higher when compared to the one reported in another study conducted in the same centre which encompassed both obstetric and gynaecologic procedures.[7]

Uterine fibroid was the commonest indication for elective gynaecologic surgery in our review with a prevalence of 38.7% and myomectomy was the commonest surgical procedure conducted accounting for 30% of all the elective procedures. This was higher than the period prevalence reported in a previous study conducted in this centre.[3] However, while the reported prevalence in this study was based on elective procedures only, the previous study combined both elective and emergency gynaecologic procedures and that might have accounted for the lower period prevalence. The relative young age of presentation of the uterine fibroids, the desire for uterine preservation for future fertility and the high interest in child bearing are some of the reasons women often prefer to have myomectomy in our environment.[3,5] This is also comparable to findings reported in previous studies conducted in this center.[3,5,8] However, this contrast with findings reported in the United States where hysterectomy surpasses myomectomy in the management of uterine fibroid.[10,11]

Hysterectomy is one of the most frequently performed gynaecologic procedures for benign diseases.[12,13,14] Hysterectomy accounted for 19% of elective gynaecologic procedures conducted over the period under review with the leading indication being uterine fibroids. This is similar to reported rates of 18.2% in another teaching hospital in Nigeria.[15] However, slightly lower rates were reported in studies conducted in northeast,[16] south-south[17] and south-western[18] regions. This might be attributable to the lower patient turnover in those regions when compared to our region.

Majority (67%) of the elective gynaecological procedures during the period under review were performed by Consultant Gynaecologist. They performed 74% of hysterectomies, 54.1% of myomectomies and all (100%) obstetrics fistula repair, vulvovaginoplasty and vulvectomy. The senior registrars on the other hand performed the remaining 32% of the procedures under the supervision of the consultants. As our centre is a teaching hospital, this finding is not surprising and is consistent with findings reported in a previous study.[2] Difficult procedures are more likely to be performed by the consultant themselves to avoid unnecessary complications. Only three complicated/major procedures were done by the Registrars which implied that they were mostly not allowed to do such kinds of procedures. On the other hand, majority of the procedures were assisted by the senior registrars as a way of teaching them. Our finding also showed little involvement of the house officers in these procedures.

General anaesthesia was used in more than half of the procedures (55.1%). The use of general anaesthesia was necessitated by huge masses and cases with malignancies. Only four cases had epidural as it is not widely practised in our centre probably because of a lack of adequate manpower and expertise for the procedure in our centre.

Conclusion

The prevalence of elective gynaecological procedures in this study was 19.4%. Consultants were the leading surgeons in most of the procedures and a statistically significant association was found between the nature of the procedure and the cadre of surgeons. There is a need to strengthen the postgraduate training of Resident doctors by exposing them to more hands-on training on major procedures.

Limitations

Lack of complete record for elective surgeries

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