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Surgical Activities in the Gynecology-Obstetrics Department of the Teaching Hospital Yalgado-Ouédraogo of Ouagadougou: Assessment of One Year of Practice from January 1st, 2015 to December 31st, 2015

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Abstract

Objective: The objective of our study was to study the surgical activities carried out in the gynecology-obstetrics department of the CHU-YO (Teaching Hospital Yalgado Ouédraogo) from January 1st 2015 to December 31st, 2015. **Patients and Methods:** This dealt with a cross-cutting descriptive and analytic study with retrospective data collection. Our study has included the female patients who underwent surgery in the operating room and whose medical records were usable. **Results:** 45% of female patients admitted in the concerned department underwent a surgery. The average age of patients was estimated at 28.02 years ±7 years with extremes of 13 years and 80 years. Obstetrical surgery has involved 89.9% of cases. Female patients have received a loco-regional anesthesia in 92.7% of cases. Emergency surgical operations accounted for 88.8% and caesarean section was the main surgical operation carried out in 87.1% of cases. The mortality rate of the overall surgical operations was 1.04%. **Conclusion:** A better availability of labile blood products is more likely to reduce the mortality rate of surgical operations under the threshold of 1%.

Keywords

Surgery, Caesarean Section, Prognosis, Mortality Rate

1. Introduction

In 2006, a national strategy to subsidize birth deliveries and emergency obste-

trical and neonatal care (SONU) has been adopted in Burkina Faso. This strategy aims at improving the access of the populations to emergency obstetrical operations. Such measures have brought about a significant increase in the number of operations in gynecology obstetrics. However, according to several authors, the increase of surgical operations seems to be related to an acute higher morbidity and mortality risk [1]; the increase of caesarean sections is also related to a rise of the fetal mortality and the number of newborns admitted in neonatology unit [1] [2]. Surgical procedures in gynecology and obstetrics are dominated by caesarean section, hysterectomy and myomectomy, according to many authors [3] [4]. If in developed countries gynecological surgery is mainly performed by laparoscopic surgery, in most African countries laparotomy is still widely used [1] [3]. Locoregional anesthesia is most often used [3] [5]. This is why we have decided to undertake an analysis of surgical operations performed in the gynecology and obstetrics department of the CHU-Yalgado Ouédraogo.

2. Patients and Methods

This dealt with a cross-cutting descriptive and analytic study with a retrospective data collection over the period January 1st, 2015 to December 31st, 2015. Such study was implemented in the gynecology and obstetrics department of the CHU Yalgado Ouédraogo in Ouagadougou (Burkina Faso). We have included in our study all the female patients who underwent surgical operation in the operating room and whose medical file was complete. Data were collected through a form developed in this purpose. Sociodemographic characteristics, the operating indications, the type of anesthesia, the prognosis were the items. Data sources included clinical records of the operated patients, the records of the operatory and anesthetic reports and admission records. This research was approved by the patient themselves.

Data were entered through the software Cspro 5.0 and analyzed through the software SPSS 20. The overall statistical tests of our analysis were considered significant for a threshold $p < 0.05$.

3. Results

3.1. Frequency

In 2015, the gynecology-obstetrics department has recorded 9198 admissions among which 4134 underwent surgical operations, which corresponds to 45%. We have found 3161 usable records of operated patients.

3.2. Sociodemographic Characteristics of Female Patients

The average age was estimated at 28.02 years ± 7 years with extremes of 13 and 80 years. Housewives accounted for 54% of patients, followed by salaried women representing 12%. Female patients were living in union in 92% of cases. The nulliparous patients represented 38.7% of cases and the primiparous ones 22%.

3.3. Surgical Operations Performed

Obstetrical surgery has been carried out in 89.9% of cases. Female patients have received a loco-regional anesthetic in 92.7% of cases. Emergency surgical operations accounted for 88.8% of cases against 11.2% for the scheduled surgical operations.

The surgical operations carried out are presented in Table 1.

Caesarean section and salpingectomy for ectopic pregnancy were the most performed surgical operations with respectively 87.1% and 3.7% of cases.

3.4. Prognosis of the Patients Operated

Thirty-six (36) female patients, which correspond to 1.1%, have had some per operative complications. Such complications mainly included hemorrhage (18 cases) and some deaths (9 cases).

We have observed post-operative complications on 231 female patients. Such complications mainly included anemia, parietal suppuration, endometritis and thromboembolic complications with respectively 66 cases, 22 cases, 11 cases and 09 cases. Table 2 presents the factors we have found and which are related to post-operative complications.

The occurrence of post-operative complications is related to contributing factors such as emergency surgery, general anesthesia, neonatal death, distance

Table 1. Surgical operations conducted.

Surgical operations	Number	Percentage
In obstetrics		
Caesarean section	2 752	87.1
Suture of the soft tissues	32	1
Suture of the womb after uterine rupture	28	0.8
Cervical cerclage	16	0.5
Hysterectomy of hemostasis	10	0.3
Others	4	0.1
In gynecology		
Salpingectomy for ectopic pregnancy	117	3.7
Hysterectomy	54	1.7
Myomectomy	35	1.1
Cystectomy	32	1
Clitoral plastic surgery	31	1
Mastectomy	8	0.3
Bartholin infection	8	0.3
Nodulectomy	8	0.3
Others	26	0.8
Total	3161	100

Table 2. Factors associated with the occurrence of post-operative complications.

Variables	Post-operative complications		Total	p-value
	No	Yes		
Origin (n = 3096)				
Ouagadougou	2 492	167	2 659	**p = 0.000**
Province	378	59	437	
Marital status (n = 2737)				
Married	1796	126	1922	**p = 0.016**
Unmarried	182	16	198	
In free union	546	49	595	
Others	17	5	22	
Occupation (n = 3066)				
Housewife	1769	163	1932	**p = 0.014**
Civil servant	368	18	386	
Tradeswoman	284	15	299	
pupil/student	309	18	327	
Others	113	9	122	
Previous surgical history (n = 3133)				
No	2164	200	2364	**p = 0.000**
Yes	740	29	769	
Number of previous caesarean sections (n = 3133)				
0	2253	203	2456	**p = 0.000**
1	482	18	500	
2 and more	169	8	177	
Perinatal prognosis (n = 2792)				
Newborn alive	2280	116	2396	**p = 0.000**
Stillbirth	110	54	164	
Deceased	7	3	10	
Transfer in neonatology	193	29	222	
Anesthesia type (n = 3144)				
Spinal anesthesia	2741	177	2918	**p = 0.000**
General anesthesia	178	48	226	
Intervention mode (n = 3158)				
Emergency	2585	218	2803	**p = 0.000**
Scheduled	342	13	355	

traveled before reaching the CHU-YO, the unmarried status and the housewife status as an occupation.

3.5. Mortality among the Operated Female Patients

We have recorded 33 cases of death out of the 3161 surgical operations collected, corresponding to a global mortality rate of 1.04%. The totality of these deaths has occurred among the female patients who underwent emergency surgery, corresponding to an emergency mortality rate of 1.2%. Mortality rate is higher among the urgently operated patients with a significant difference according to Fisher test ($p = 0.019$). The mortality rate following the surgical operation performed is indicated in Table 3.

Hysterectomy for uterine rupture and valve examination for hemorrhage during the delivery period were most mortal.

4. Discussion

- Limitations of study: Due to retrospective collect of data, we notice the following limitations: the miss data for some of variables. As well, our cases were selected in the folders based on which the medical file was complete. It is obvious some medical file were miss, then an under-estimation of frequency.
- The average age of our study was estimated at 28.02 years. Our result is the same with that of Nayama [3] in Niamey who found 27.22 years. It is above that of Akotionga [4] in Ouagadougou who found 25.6 years; this is due to the fact that Akotionga' study only focused on emergencies generally occurring among the young patients.
- In our series, the nulliparous women were the most represented patients with 39% of cases. The predominance of nulliparous women can be explained by the fact that they present more complications requiring a surgical operation compared to multipara women , as highlighted by several authors [5] [6] [7] [8].
- A total of 2752 caesarean sections were performed corresponding to 87.1% of the overall surgical operations conducted in the department. Our result was close to that of Traoré [9] in Mali who found 91%. It is below that of Nayama [10], who has found 81.35%. Our result can be explained by the fact that

Table 3. Mortality rate as per surgical operation.

Surgical operations	Deceased	Number	Mortality rate (%)
Caesarean section	21	2752	0.8
Hysterography after UR	1	28	3.6
Hysterectomy after UR	2	10	20
Valve examination	5	25	20
Gynecological hysterectomy	3	54	5.6
Cystectomy	1	32	3.1
Total	33	3161	1

NB: UR: uterine rupture.

caesarean section is subsidized since 2006 as part of SONU program and the opening of a specialization cycle in gynecology and obstetrics.

- In our series, the per operative complications have occurred among 36 female patients corresponding to 1.14%. The main per operative complications encountered were hemorrhage, deaths and lesions of the urinary tract. Lamboudié [11] in France has mentioned that the most common per operative complications from hysterectomies were hemorrhagic complications. Ze Minkandé [12] in Yaoundé et Nzau in Kinshasa [13] also found that hemorrhages were predominant. This predominance of hemorrhages can be explained by the fact that most surgical operations are performed in emergency situation without pre anesthesia consultation and without any assessment of the coagulation.
- The proportion of post-operative complications in our series was estimated at 7.3%. Our rate is higher than that of Bambara *et al.* In Bobo [5] who found 4.6% and is below those of Ouédraogo *et al.* in Ouagadougou [7] and Andriamady *et al.* in Madagascar [14] who respectively found 18.8% and 29.5%. Our result could be explained by an improvement in the surgical treatment of patients admitted in gynecology and obstetrics department.
- The mortality rate in our series was estimated at 1.04% and is below that of Buambo in Brazzaville reaching 3.6% [15]. In our series, the hysterectomies for uterine ruptures and valve examinations for cervico-vaginal soft tissues tears were the most mortal surgical operations. Such surgical operations occur in a context of significant hemorrhage. Several authors have highlighted the predominance of hemorrhages in death causes. Therefore, Maina *et al.* [16] in Kenya have found that half of the death cases were related to hemorrhages. Rafanomezantsoa *et al.* [17] in Madagascar have made the same observation.

5. Conclusion

This study shows that surgical activities within gynecology and obstetrics department of the CHU-Yalgado Ouédraogo are mainly dominated by obstetrical surgery represented by caesarean. Mortality rate was estimated at 1.04% and hemorrhage was the main cause of death. A better availability of labile blood products will enable to reduce this mortality rate of surgical operations under the threshold of 1%.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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