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Review of Surgical Activities in the Tominian Health District

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Abstract **Original Research Article**

Objective*:** To establish an assessment of surgical activities at the Tominian Reference Health Center. ***Method: This was a prospective descriptive study covering all patients received and operated on at the Tominian Reference Health Center over a period of 8 months from October 1, 2022 to May 2023; ***Results:*** We operated on 247 patients, including 64% (157 patients) in emergencies. The mean age was 35.6 ± 2.8 years with extremes of 2 and 57 years. Emergency cesarean section represented 49% (121 patients). Genital prolapse represented 13% (31 patients), hernias represented 11% (28 cases); acute peritonitis represented 5% (13 cases), intestinal obstruction 3% (7 cases). Benign prostatic hypertrophy (11 cases), uterine myomas (8 cases), uterine rupture (11 cases), splenectomy (2 cases), TAF (3 cases) and VVF (2 cases). We recorded 4 cases of death. ***Conclusion***: Surgical pathologies remain frequent and diversified in rural areas, the need for qualified personnel in general and in surgical specialties in particular remains necessary to improve health coverage, especially for obstetric emergencies.

Keywords: Assessment, Surgical Activity, Reference Health Center, Tominian.

INTRODUCTION

The Tominian Reference Health Center (Csref) is the first reference level of the health pyramid in the Tominian circle. Despite the limitation of the technical platform, it allows certain basic general and gyneco-obstetric surgery activities to be carried out.

In this locality in Mali, visceral, gyneco-obstetrical, traumatological and urological surgery is provided by a single general surgeon and accompanied by 2 general practitioners with surgical expertise.

Surgery in rural areas remains a challenge, especially in a structure where resources are limited. Studying the results of mid-term surgical activities makes it possible to improve the quality of care and services; This is all the more justified in a health district in a rural environment where handling emergencies is sometimes difficult due to insufficient staff and difficult accessibility.

An emergency is a pathological situation in which a diagnosis and treatment must be carried out very quickly. These emergencies are essentially surgical and gyneco-obstetrical.

Regular surgery is possible even if it is not always frequent given the profile of the staff and the load of community medicine activities.

With the aim of taking stock of the situation, analyzing the preliminary results and above all identifying the panel of surgical pathologies encountered and comparing it with the logistical and human resources available, motivated this study with the following:

Specific objectives:

- Identify the main surgical pathologies operated on;
- Evaluate the vital prognosis of operated patients;
- Evaluate the quality of surgical care

METHODOLOGY

This was a prospective descriptive study over an 8-month period, from October 1 to May 31, 2023.

This health center is 240 km from the Ségou region and 180 km from the Mopti region; it is the first level of reference where 24 community health centers (Cscom) are attached. With an area of 6,563 km2 and a population of 330,232 inhabitants.

The reference health center is made up of several units including:

- The Medicine Unit
- The Surgery Unit
- The Maternity Unit
- The Pediatric Unit
- THE URENI

The surgical staff is made up of:

- A surgeon
- 2 general practitioners
- An Assistant in Resuscitation Anesthesia
- A nurse performing anesthesia

The Csref operating theater has two rooms for surgical procedures (urgent and cold surgery).

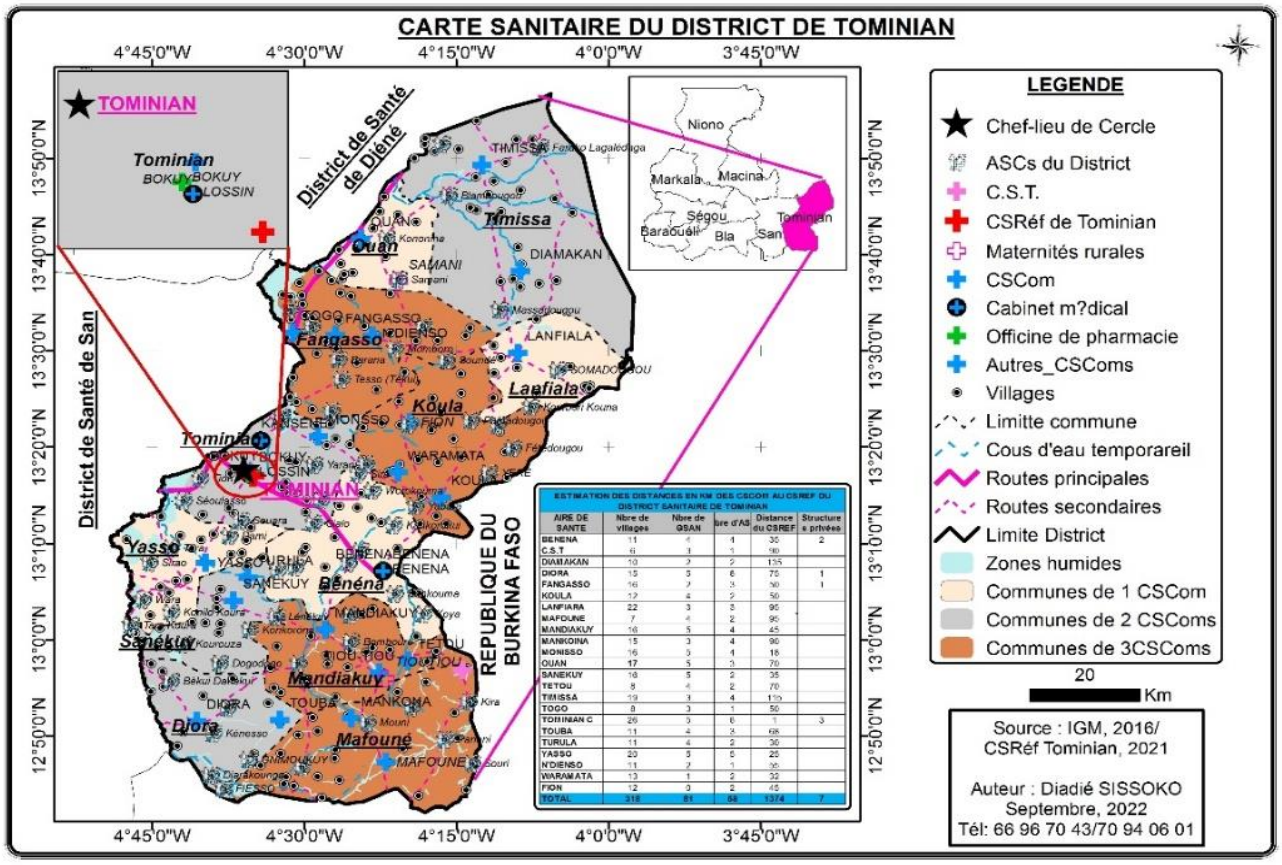
Inclusion criteria:

Any patient received and operated on in the Reference Health Center for surgical pathology;

Non-inclusion Criteria

- Patients seen in consultation and not operated on;
- Patients who have consulted for medical pathology;

Data analysis was done using Excel and SPSS 25.0 software.



RESULTS

During the study period, 247 patients were operated on. This represented 36% of all admissions (N=679) and 64% of surgical emergencies (N=157).

The mean age was 35.6 ± 2.8 years with extremes of 2 and 57 years;
The sex ratio was 3.33 in favor of women (190).

➢ Depending on the method of recruitment:

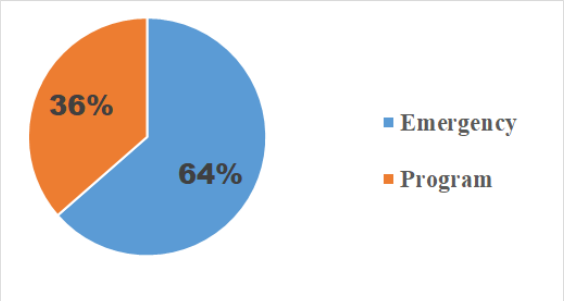


Fig 1: Admission method

- Depending on the period of interventions:

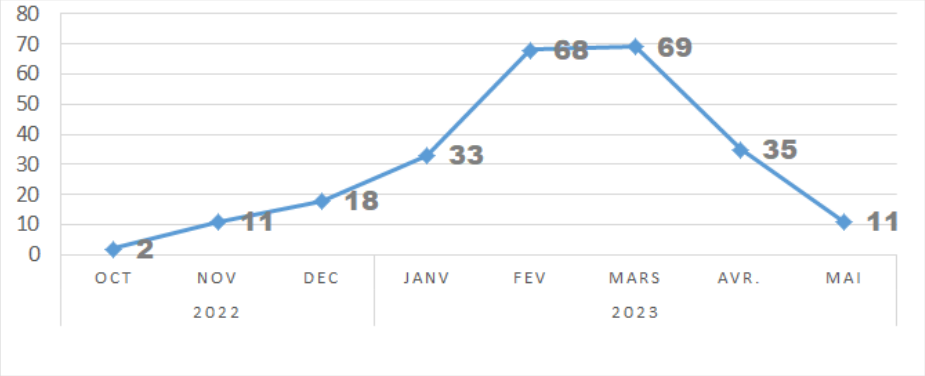


Fig 2: Frequency of Interventions

Most interventions took place in the first quarter of 2023. The peak of interventions was noted in March 2023.

- Depending on the surgical specialty:

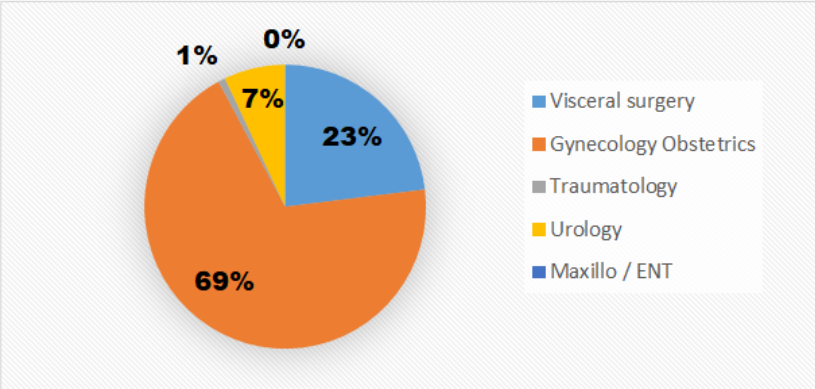


Fig 3: Depending on the surgical speciality

Most interventions were dominated by gyneco-obstetric pathologies followed by visceral pathologies.

- Pathologies operated on:

Table 1: Distribution according to pathologies

Specialities	Indication	Frequency	Percentage
Obstetric Gynecology	Genital prolapse	31	13%
	Uterine myomas	8	3%
	Uterine rupture	11	4%
	FVV	2	1%
	Emergency Caesarean section	121	49%
	Parietal Hernias	28	11%
	Acute peritonitis	13	5%

Specialities	Indication	Frequency	Percentage
Visceral surgery	Acute appendicitis	5	2%
	intestinal obstruction	7	3%
	Evisceration	2	1%
	Splenomegaly	2	1%
Traumatology	Compartment syndrome	1	0%
	Foot Tumor	1	0%
Urology	Urological Hypertrophic prostate	11	4%
	Penile strangulation	1	0%
	Bladder lithiasis	3	1%
TOTALE		**247**	**100%**

Genital prolapse and emergency cesarean section dominated gyneco-obstetric pathologies; digestive surgical emergencies dominated surgical pathologies.

Table 2: Distribution of patients according to indications for cesarean section

Diagnosis	Numbers	Percentages (%)
Acute fetal distress	61	50%
Bleeding in the 3rd trimester	21	17%
Multi-scarred uterus in labor	13	11%
Pelvis generally narrowed	8	7%
Cross-sectional presentation	11	9%
Procidence of the beating cord	7	6%
Total	**121**	**100%**

Table 3: Distribution according to type of anesthesia

Type of anesthésia	Numbers	Percentages (%)
General Anesthesia	201	81%
Spine Anesthesia	29	12%
Local Anesthesia	17	7%
Total	**247**	**100%**

Table 4: Distribution according to the actions performed

Actions taken	Total
Appendectomy	5
Ostomy	0
Anastomosis resection	11
Flange section	1
Hernia cure	28
Appendectomy + washing	7
Ileal suture	11
Bladder Suture for VVF	1
Anastomosis resection	5
Cystolithotomy	3
Adenomectomy	11
Tumor excision	1
Vaginal Hysterectomy	19
Abdominal Hysterectomy	4
Myomectomy	8
Cesarean section	121
Aponeurotomy	1
Perineorrhaphy	6
Hysterropaphies	2
Splenectomy	2
Total	**247**

Caesarean section, hernia repair and vaginal hysterectomies were the most commonly performed procedures. No stoma was made.

2. Evolution:

We recorded 10 cases of complications, representing a morbidity of 4.04%. Surgical site infections represented 2.83%. The mortality rate of 1.61%.

Table 5: Operating Suites

Operating Suites	Workforce	Percentage
Singles	233	94%
Hemorrhage	1	0,40%
Infection Sites Op	7	3%
Others	2	0,8%
Deaths	4	2%
Total	**247**	**100%**

Others: Delayed healing, Recovery,

Table 6: Length of hospitalization

Duration Hospitalization	Numbers	Pourcentages (%)
1 -5 Jours	227	92%
6 -10 Jours	13	5%
> 10 Jours	7	3%
Total	**247**	**100%**

DISCUSSION

In our study, we carried out 247 interventions, either 36% of consultations and 64% of emergencies.

During the study period, 69% (171 cases) of our patients were evacuated from the Cscom to the Csref. We carried out the evacuation of 2 patients (0.8%) and 8 (3%) referrals to the 2nd referral hospital. This referral rate was statistically lower than the Togolese study (4%) [4] P = 0.03. This difference could be explained on the one hand by the size of the sample and on the other by the insufficient organization of the referral/evacuation system in our context where sometimes patients are reluctant to transfer.

Among the patients evacuated to the csref, 49% were due to cesarean section. Acute fetal distress (50%) was the operative indication for most cesarean sections followed by 3rd trimester hemorrhages in the gyneco-obstetric specialty as observed by Coulibaly *et al*., [2].

Genital prolapse was the 2nd gyneco-obstetric pathology operated on in the district, 11% of which, or 27 cases, benefited from a vaginal hysterectomy. This frequency could be explained by the high frequency of home births in a conservative population.

Uterine rupture (4%) which occupied 3rd place was linked on the one hand to the delay in admission to a health service and on the other hand to the inaccessibility of certain health centers given the security context where patients made long detours by cart and/or motorcycle ambulance during labor.

The latter would also be linked to the various attempts at home birth, of which it was found in 6/11 patients.

Inguinal hernias are common in surgical settings [8]; it concerned 19 patients, either 8% of all pathologies operated on and 33% of our visceral surgery activities; as in the study by Bonnet and Coulibaly and Tamou who found 81.8%, 12% and 87.30% respectively, P =0.28 [1-3].

In Africa, hernia occupies the first place among visceral pathologies even if its prevalence remains poorly known [9]; This high rate of hernia surgery could be explained by a particularly agricultural population in rural areas. We found 9 cases of other parietal hernias.

Among our patients, 3 cases of hernia were observed in women. Hernial strangulation was found in 29% (8 cases) of patients, including 3 cases associated with ileal necrosis; this is statistically higher than that of Tamou who found a rate of 18.58% [3] P = 0.03. This difference could be explained on the one hand by the late consultation and on the other hand by the financial means of the patients.

The postoperative course was complicated in 2 patients (7%) characterized by a scrotal hematoma and wall suppuration.

Acute peritonitis occupied 2nd place, i.e. 23% of all visceral surgery pathologies and 5% of pathologies operated on during the period, this was noted by Tamou [3] who found 19.24% with no statistical difference, P = 0.38.

Peritonitis was of ileal origin in 2.8% of patients (7 cases), statistically higher than that of Coulibaly who found a rate of 1.8% [2] P = 0.01. This could be explained by the delay in seeking care in rural areas and the difficult access to certain community health centers. We found 4 cases of peritonitis of traumatic origin, i.e. 3 closed abdominal traumas including 1 case of bladder rupture, 1 case of ileal involvement, 1 appendicular case; and 1 case of evisceration by knife.

The second case of evisceration observed was due to a firearm, occurring during an armed conflict classifying the patient as war wounded having led to colonic transection; this patient died during the procedure.

The profile of trauma pathologies operated on was different from that of the Togolese study [4]. No fractures were treated during our study period? This was due to the limitation of the technical platform in particular the absence of an x-ray device, the absence of an osteosynthesis and amputation box unlike that of SAMA and Bonnet whose traumatological and orthopedic surgery concerned respectively 4% and 10% [4, 1].

Benign prostatic hypertrophy remains the most common urological pathology in our context, all patients of which had undergone transvesical adenomectomy. This was linked on the one hand to the choice of patients who found it appropriate to be carried out in their locality and financially bearable and on the other hand to the availability of the only technique possible in our context (Absence of urologist and endoscopy equipment). Morbimortality represents 6%.

The rate of surgical site infections was 3% statistically lower than that of Tamou and Hodounou who found 6% and 7.3% respectively [3, 5] but remains within the African range which is between 2.5 % and 30.90% [6].

Mortality concerned 2% of our patients, lower than that of Tamou and Sani who found 3.40% and 6.25% respectively [3, 7].

The duration of hospitalization was less than 8 days in more than 90% of our patients, including 2 patients who experienced delayed healing and reoperation.

CONCLUSION

Surgical activities are important in our context and especially dominated by emergencies. Community medicine activities, the limitation of the technical and human platform had little impact on the quality of daily surgical practice. Improving this quality requires, in addition to a general surgeon, the recruitment of other surgical specialties.

Conflicts of Interest: The authors declare no conflicts of interest.

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