Scientific Research Publishing

Open Journal of Obstetrics and Gynecology, 2020, 10, 348-356
https://www.scirp.org/journal/ojog
ISSN Online: 2160-8806
ISSN Print: 2160-8792

Tubal Ligation under Local Anesthesia in a Country with Limited Resources: 56 Cases of Wife and Husband's Experience in the Gynecology-Obstetrics Department of Ignace Deen National Teaching Hospital, Conakry, Guinea

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How to cite this paper: Sylla, I., Diallo, M.H., Baldé, O., Diallo, F.B., Baldé, I.S., Diallo, A.D. and Sy, T. (2020) Tubal Ligation under Local Anesthesia in a Country with Limited Resources: 56 Cases of Wife and Husband's Experience in the Gynecology-Obstetrics Department of Ignace Deen National Teaching Hospital, Conakry, Guinea. *Open Journal of Obstetrics and Gynecology*, **10**, 348-356.
https://doi.org/10.4236/ojog.2020.1030032

Received: February 9, 2020
Accepted: March 9, 2020
Published: March 12, 2020

Abstract

Tubal ligation is a surgical sterilization procedure that provides permanent and reliable contraception to women. Tubal obstruction is a method of permanent birth control that can be performed after mini-laparotomy under local anesthesia. **Objective:** To determine the outcome of tubal sterilizations by mini-laparotomy under local anesthesia performed in clients who underwent the surgical operation in the Maternity Ward of Ignace Deen National Hospital. **Patients and Methods:** The Gynecology and Obstetrics Department of Ignace Deen National Hospital was used as the place for the study. The study involved all the women seeking voluntary surgical contraception. This was a retrospective study of a descriptive type carried out from January 1, 2017 to December 31, 2018. A consent form was filled out and signed by spouses after an interview and a systematically carried out pre-operative clinical and para-clinical assessment. **Results:** During the study period, 56 tubal ligations were performed *i.e.* 4.72 percent of all family planning methods. The recruiting for the surgical contraception involved clients whose typical profile is that of women with an average age of 35, mostly housewives (35.71%), major multiparous (69.63%) with 6 living children on average. Married women made up the bulk of the recruiting *i.e.* 96.44%. Unmarried women made much more use of other methods. Indications of personal convenience were the most frequently encountered common reason. Among medical causes, high blood pres-

sure concerned the majority of cases: 38% of the indications. Surgical contraception in between was more practiced than the post-partum one. The recorded complication was the parietal hematoma due to a lack of hemostasis and it accounted for 1.79% of cases. The progress was uncomplicated in 98.68% of cases. Forty couples (71.42%) expressed their feelings of satisfaction against only 6 cases of regret (10.71%). **Conclusion:** The surgical contraception has become a requirement for modern couples. Tubal ligation by mini-laparotomy is a simple operation and a harmless method of contraception that allows clients to use permanent contraception. Carried out on an outpatient basis, incidents and accidents are rare and may have psychological repercussions that are difficult to assess. The technical mastery of the gesture helps to minimize these incidents.

Keywords

Tubal Ligation, Local Anesthesia, Conakry, Ignace Deen

1. Introduction

Female sterilization still known as voluntary surgical contraception (VSC) or tubal ligation by mini-laparotomy is a permanent contraception method for women who no longer wish to have children [1] [2]. It is a minor surgery that involves cutting the fallopian tubes.

VSC is a birth control and prevention of unwanted pregnancies method increasingly used by women. Worldwide, new acceptors were estimated in 1995 at 230,000 [2] [3].

Nowadays different techniques of tubal sterilization are used; these are: mini-laparotomy, laparoscopy and electrocoagulation of the tubal ostium [4].

In recent years, tubal ligation by mini-laparotomy and the sterilization by laparoscopy have rapidly increased. These two sterilization methods are currently the most widely used methods of contraception in the world [5].

Tubal sterilization by mini-laparotomy under local anesthesia presents the advantage of high efficiency, outpatient practice and the simplicity of the materials used to make it an inexpensive method [4].

In the United States, it is the second most common method of contraception used by women. In 1985, 20 to 25% of women of reproductive age opted for this method of contraception. This proportion even reached 67% among women aged between 40 and 45 [6] [7] [8].

There in Belgium in 2000, this contraceptive method was chosen by 6 to 8% of the childbearing age women population [9] [10].

In Senegal (Dakar) in 1996, Cissé C. T. *et al.* at Dantec Teaching Hospital reported that the tubal sterilization was the second most commonly used family planning method, *i.e.* 20% [4].

The overwhelming majority of these interventions are motivated, not for

medical reasons in the strict sense, but for convenience reasons, foremost among which are the desire for a reliable method of contraception and the problems posed by the long-term use of other contraceptive techniques, whether hormonal or mechanical [11].

In Guinea, according to the 2012 Demographic and Health Survey (DHS) the rate of contraceptive prevalence of modern methods was 7% [12].

The objective of this work was to assess the results of tubal sterilizations by mini-laparotomy under local anesthesia, performed at the Maternity Ward of Ignace Deen National Hospital and more specifically to calculate the frequency of tubal ligations under local anesthesia, determine clients socio-demographic profile, identify the main indications, determine the prognosis and ultimately collect the feelings of clients who received tubal ligation under local anesthesia at the maternity ward of Ignace Deen National Teaching Hospital, Conakry.

2. Method and Clients

This was a retrospective descriptive study conducted from January 1, 2017 to December 31, 2018 at the maternity ward of Ignace Deen National Hospital and made on a continuous series of 56 cases of tubal ligation under local anesthesia.

A duly completed consent form was signed by husband and wife after an interview. A preoperative clinical and paraclinical check-up was systematically performed.

a. Inclusion criterion: Clients who gave voluntary and informed consent and in the absence of contraindications to a preoperative clinical and paraclinical evaluation were included.

b. Non-inclusion criterion: Clients who chose another method of contraception and those who did not provide voluntary informed consent with contraindication to a preoperative clinical and paraclinical evaluation were not included.

The variables studied were age, parity, number of living children, marital status, profession, religion, indications, duration of intervention, complications and feelings of women after ligation.

The results were presented in tabular forms in percentages and in averages.

c. Technique:

In gynecological period we distinguish the following different steps:

- Pre-medication with a valium-atropine combination, 30 minutes before the surgery;
- The patient is laid in a gynecological position; a vaginal touch allows to check the position of the uterus;
- Vulvo-vaginal disinfection;
- Installation of a speculum or vaginal valves;
- Introduction of the uterine elevator; abdominal disinfection;
- Local anesthesia with xylocaine 1% through 2 fingers above the symphysis pubis on a 4 cm transverse path;
- 3-centimeter arciform celiotomy. Using Farabeuf retractors, we maintain the

parietal opening.

The handle of the elevator is pulled down: this brings the uterine fundus to the level of the parietal incision.

- The tubes are grasped one after the other for ligation-section according to the POMEROY technique;
- Parietal closure in its different sides.

d. Ethics: the protocol was approved by the National Ethics Committee, confidentiality was observed.

e. Limitations of the study: This work was done in a context of under equipment because in most countries with a laparoscopic column, tubal sterilization is done by electrocautery and section of the tubes by laparoscopy. These results are only applicable in countries with limited resources.

3. Results

a. Frequency: During the study period, 1184 women were consulted for Family planning, of which 56 cases of sterilization by mini-laparotomy under local anesthesia were performed, *i.e.* a frequency of 4.72%.

b. Patients' socio-demographic characteristics and religious affiliation:

Clients' average age was 35 with extremes of 25 and 45. The 30 - 34 age group was the most affected. More than half of the multiparous and major multiparous (52.78%) chose tubal ligation by mini-laparotomy.

Married women made up the bulk of the recruitment (97.36%). Unmarried women and widows accounted for 2.64%. The role of polygamy was not highlighted. In terms of occupation, 35.71% of our clients were housewives.

Muslim women were highly represented *i.e.* 46 cases (86.49%); Christian women accounted for 13.51%.

The indications of convenience were the most encountered followed by high blood pressure and diabetes.

Most women who underwent ligation had at least 6 living children.

c. Distribution of tubal ligation cases according to Period of Surgery Performance:

Interval surgical contraception was more commonly used in this study. This may be explained by the fact that most pregnant women were not counselled during ANC sessions.

d. Duration of the surgical performance and complications:

The average duration of our surgical operations was 30 minutes in 87% of cases with extremes of 20 and 40 minutes. In 10 cases, the duration was more than 40 mn, and it was due to the client's anxiety.

e. Pre- and post-op complications:

The evolution was without complications in 98.2% of cases.

The complication recorded was parietal haematoma due to a haemostasis defect, which accounted for 1.8% of cases.

The success rate of this method was high.

Most clients were satisfied with this method.

4. Discussion

During the study period, 1184 women were received in the gynecology and obstetrics department of Ignace Deen Teaching Hospital for contraception among which 7 56 benefited from a VSC by mini-laparotomy under local anesthesia, *i.e.* a frequency of 4.72%.

This result shows that female sterilization is gaining ground in our country as well as in other African countries such as Kenya, Mauritius or Tunisia [13].

The success rate of the method was 99% (Table 1).

The highest utilization rates in the world are recorded in Panama (28.5%) of married couples, in China (27%), in Brazil (18%), in the United States (17%).

Tubal sterilization is also possible by laparoscopy. In laparoscopy, complications are less frequent, but this method is more expensive and less accessible, especially in our context of under-equipment (18).

a. Sociodemographic Characteristics

The profile of patients who accepted was that of a 35-year-old female multiparous with at least 6 living children. This profile is comparable to those reported by other studies in Black Africa [13] [14] [15] [16] [17].

Most clients had 6 or more living children (64.28%) (Table 2).

Asian studies [18] [19] [20] [21] show a more accepting average age of 26 young population with 2 - 3 living children. In these densely populated countries, there is a policy based on limiting the number of children per woman.

Our attitude is not to apply a selection policy based on age or the number of living children, but on the absolute necessity of voluntary and informed consent after a period of thinking.

b. Indications

Indications of convenience were the most encountered (62.50%) followed by high blood pressure (14.21%) and diabetes (10.71%) (Table 3).

Table 1. Distribution of tubal ligation cases by outcome.

OUTCOME	NUMBER OF CASES	CASE FREQUENCY
Successful	55	99.00%
Failure	1	1.00%
Total	56	100.00%

Table 2. Distribution of tubal ligation cases by number of living children.

LIVING CHILDREN	NUMBER	PERCENTAGE
1 - 3	2	3.57%
4 - 5	18	32.14%
≥6	36	64.28%
TOTAL	**56**	**100.00%**

Table 3. Distribution of tubal ligation cases by indications.

	INDICATIONS	NUMBER	PERCENTAGE
CONVENIENCE	-	35	62.50%
(62.50%)			
Medical	- HBP	8	14.28%
(37.50%)	- Diabetes	6	10.71%
	- FVV	3	5.35%
	- Cardiopathy	2	3.57%
	- Epilepsy	2	3.57%
TOTAL		**56**	**100%**

The decision to resort to sterilization was most often motivated by a family size and composition considered sufficient. The current context of economic crisis with a gradual decline in income has certainly contributed to the predominance of the selection of this method.

But whatever the reason, in accordance with our socio-cultural experience, the final decision always remained with the husband. This justifies our attitude of seeking his voluntary consent if necessary, after interview sessions.

This element must be taken into account in the family planning policy in order to develop information strategies aimed at the male target group, which is often ignored.

The only recorded complication was a parietal hematoma due to a lack of hemostasis, which accounted for 1.32% of cases.

Our complication rate is close to those reported by Jack [14] and Saiffudin [22]. Complications following tubal ligation are rare and include infection (1% of total cases), minor or major bleeding (0.6% to 1%), and anesthesia events (1 to 2%) [6].

We did not record any death in our series but Khairullah [23] reported a global death rate after tubal sterilization of 4.7 per 100,000 cases. According to Turney [24], this rate was 1/5000 in Bangladesh, 1/10,000 in the United Kingdom and 1/10,000 and 1/25,000 in the United States.

c. Failure

Our failure rate was 1.78% and lower than that of M. Sangaré *et al.* [25] in Senegal (4.05%). According to Darbois [26], simple ligation exposes to 8% failure; whereas section-ligation, which model is the POMEROY method, is safer with less than 1% of failure rate. Furthermore, authors agree to recognize the possibility of permeabilization by tubo-tubal anastomosis to explain failures.

Women's feelings after tubal ligation.

During our study, 40 couples expressed their feelings of satisfaction *i.e.* 71.42% versus 6 cases of regret (10.71%) (Table 4).

Table 4. Women's feelings after tubal ligation.

FEELINGS	NUMBER OF CASES	FREQUENCY
Satisfied	40	71.42%
Not satisfied	5	8.92%
Have no opinion	5	8.92%
Regret	6	10.71%
Total	56	100%

Such feelings of regret were related to the unfortunate events that occurred in the couple's life, events such as:

- Divorce, but also and especially the death of a child which prompts a desire to procreate.

Some factors such as age at sterilization, the death of a child, the number of children at birth, remarriage, changes in socio-economic status, and the lack of information about surgical sterilization contribute to post-sterilization regret [27].

5. Conclusion

Contraceptive prevalence is low in our country. VSC represents 4.71%. Its ambulatory practice and the simplicity of the equipment used make it a cheap method. It can help reduce maternal morbidity and mortality by preventing high-risk pregnancies. However, the irreversible nature of the method imposes a rigorous selection of clients based on complete and good quality information during interviews to avoid cases of regret and requests for tubal permeabilization.

Conflicts of Interest

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

References

[1] Robert, A., *et al*. (2000) Element of the Contraceptive Technique. Clinic Staff Manual, 31.

[2] Houssine, B. (2014) Factors Determining Regret after Tubal Ligation.

[3] Pollack, A.E. and Soderstron, R.M. (1994) Femal Tubal Sterilization. In: Corson, S.I., Dermen, R.J. and Tyren, L.B., Eds., *Fertility Control*, 2nd Edition, Goldin Publishing, London, 293-317.

[4] Cisse, C.T., Kerby, K., *et al*. (1997) Tubal Ligation by Subdermal Mini-Laparotomy Local Anaesthesia for 800 Cases at the Dakar University Hospital Center. *Contraception, fertilite, sexualite*, **25**, 10-15.

[5] Green, C.P. (1978) Voluntary Sterilization, Wold's Leading Contraceptive Method. *Population Reports*, 37-71.

[6] Mosher, W.D. (1985) Reproductive Impairments in the United States, 1965-1982.

Demography, **22**, 415-430. https://doi.org/10.2307/2061069

[7] Debra, B. and Stulberg, E. (2014) Tubal Ligation in Catholic Hospitals: A Qualitative Study on Experiences of Gynaecologists. *Contraception*, **90**, 422-428. https://doi.org/10.1016/j.contraception.2014.04.015

[8] Borrero, S., Nikolajski, C., Rodriguez, K.L., Creinin, M.D., Arnold, R.M. and Ibrahim, S.A. (2009) "Everything I Know, I Learned from My Mother... or Not": African-American and White Women's Perspectives on Decision-Making about Tubal Sterilization. *Journal of General Internal Medicine*, **24**, 312-319. https://doi.org/10.1007/s11606-008-0887-3

[9] Van Hyfte, E. and Deven, F. (1976) Evolutive van de kennis en van het gebruik van anticonceptionele methoden bij de gehuwde vrouwen van denederlandse cultuur gemeenschap in Belgie 1966-1976. *Bevolking en Gezin*, **3**, 245-269.

[10] Lennes, G., Thoumsin, H., Gasdpard, U. and Lambotte, R. (1980) Survey on the Contraception. Alderman's Office for Housing and Quality of Life. Liège.

[11] Nervo, P., Bawin, L., Foidart, J.M. and Dubois, M. (2000) Regret after Tubal Sterilization. *Journal of Gynecology Obstetrics and Human Reproduction*, **29**, 485-491.

[12] EDS (2006) National Directorate of Statistics Ministry of Planning Conakry Guinea: Maternal Health and Family Planning. 1.

[13] Ruminjo, J.K. and Ngugi, F. (1993) Sterilization Failure in Voluntary Female Surgical Contraception. *East African Medical Journal*, **70**, 238-241.

[14] Jack, K.E. and Chao, C.R. (1992) Female Voluntary Surgical Contraception via Minilaparotomy under Local Anesthesia. *International Journal of Gynecology & Obstetrics*, **39**, 111-116. https://doi.org/10.1016/0020-7292(92)90906-Y

[15] Logombe, A.O. and Larsi, M. (1992) Surgical Sterilization in Rural Zaire: Request for Reversal of Tubal Ligation. *Tropical Doctor*, **22**, 33.

[16] Bertrand, J.T., Kashwantale, C., Bolowa, D., Baughman, N.C. and Chirwisa, C. (1991) Social and Psychological Aspects of Tubal Ligation in Zaire: A Follow up Study of Acceptors. *International Family Planning Perspectives*, **17**, 100-107. https://doi.org/10.2307/2133294

[17] Witwer, M. (1990) Tubal Ligation Appears to be Gaining Greater Acceptance among Both Women in Kenya. *International Planning Perspectives*, **16**, 29-30. https://doi.org/10.2307/2133572

[18] Soni, R.K. and Gill, P.J. (1992) A Comparative Study of Sterilization Acceptors. *Indian Journal of Maternal & Child Health*, **3**, 82-84.

[19] Islam, M.N. and Rahman, M.M. (1993) Client Satisfaction with Sterilization Procedure in Bangladesh. *Asia-Pacific Population Journal*, **8**, 39-52. https://doi.org/10.18356/a1752327-en

[20] Mitra, S.N., Lerman, C. and Islam, S. (1992) Bangladesh Contraception Prevalence Survey 1991 Keys Finding. Dbaka, Bangladesh, Mitra and Associate.

[21] Duttap, K., Vaz, I.S. and Singh, H. (1990) Socio-Demograhic Profile of Tubectomy Acceptors. *Journal of Family Welfare*, **36**, 56-60.

[22] Saifuddin, A.B. (1991) Voluntary Surgical Contraception Medical Monitoring and Supervision System: Indonesian Experience. *The* 13*th World Congress of Gyn and Obs*, Singapore, 10 p.

[23] Kairullah, Z., Huber, D.H. and Gonzales, B. (1992) Declining Mortality in International Sterilization Services. *International Journal of Gynecology & Obstetrics*, **39**, 41-50. https://doi.org/10.1016/0020-7292(92)90778-H

[24] Turney, I. (1993) Risk and Contraception: What Women Are Not Told about Tubal Ligation. *Women's Studies International Forum*, **16**, 471-486. https://doi.org/10.1016/0277-5395(93)90097-S

[25] Sangare, M., *et al*. (1993) Tubal Ligations by Minilaparotomy in 74 Cases at Dantec University Hospital, Medicine of Black Africa. Vol. 40, 9.

[26] Darbois, Y. (1976) Female Surgical Sterilization, 800 A 10, 4.

[27] Shahideh, J.S., *et al*. (2018) Assessing Factors Influencing Regret of Tubal Sterilization: A Cross-Sectional Study. *International Journal of Fertility and Sterility*, **12**, 200-206.