

*Ricardo Barini, Aarão Mendes Pinto-Neto, Lúcia Helena Simões Costa, Arlete de Souza Barros, Nádia Maria Marchi, Lúcia de Lourdes Ferreira, Ermelinda Maria Bueno, Akemi Murayama, Cláudia Sampaio do Nascimento, Laise Potério dos Santos Hinz, Olívia Josane Barreto de Almeida*

## Multidisciplinary experience in the selection of patients for tubal sterilization

*Women's Integral Health Attention Center, Department of Tocogynecology, Faculdade de Ciências Médicas, Universidade Estadual de Campinas - São Paulo, Brazil*

Results of the use of a special protocol for evaluation of patients requiring tubal ligation is presented after applied by a multidisciplinary group. The authors conclude that the use of defined parameters of age, parity, marital union duration, number of children alive and the presence of maternal clinical pathology are useful to identify patients with smaller chances of regret after surgery.

**UNITERMS:** Tubal ligation. Evaluation protocol. Criteria for indication of surgery.

### INTRODUCTION

**B**razilian statistics are extremely shocking in what refers to the use of contraceptive methods. Approximately 53% of the women that have decided in favor of contraception, have been tubally sterilized or make use of contraceptive pills (Bemfam/PNAD). 27% of women between 14 and 44 years have

chosen surgery as contraceptive method. This represents 40% of the total of women actually using any kind of contraception devices, according data furnished by the National Survey on Maternal and Childhood Health and Family Control Plan (Bemfam, 1986).

Most of the women were submitted to tubal sterilization taking advantage of a cesarean surgery, which procedure results in several inconveniences. The first aspect is the justification that the health assistance financing companies do not pay for sterilization surgeries solely, but they reimburse cesarean costs, independently from indication, prevalence or complications. This practice results in a proportional increase of cesarean surgery procedures inadequately indicated if considering medical point of view, being both, maternal and fetus diseases and mortality tables higher when abdominal births are chosen.

---

**Address for correspondence:**

*Ricardo Barini  
Centro de Atenção Integral à Saúde da Mulher  
Caixa Postal 6081  
Campinas - SP - Brasil - CEP 13081-970*

---

Another consequence is that patients aiming for sterilization, become pregnant expecting to be submitted to sterilization under cesarean surgery conditions.

Fundamental as well is consideration outlined already in several revisions, saying that "women submitted to surgery during their pregnant period, have proportionally more chances to regret". These figures generated a practice between physicians and patients according which a woman, if she wants to be sterilized, she must be pregnant. Pregnancy, on its turn, represents a period of great psychosocial changes and is the worse moment of a woman's life to decide on a definitive sterilization procedure.

Literature informations and personal experience at the DTG/FCM/UNICAMP compelled us to consider social profile of patients that regret after surgery.

Boring, Rochat & Becerra (1988) studied reasons for regretting, among 846 patients that have been tubally sterilized in Puerto Rico. They observed that 21.6% of them declared to be unsatisfied with surgery. From this total, 75% expressed their wish in having more children. These authors reported that there was a very tight statistical association between the age of the patient when sterilized and the risk of regretting. Each year difference in age represented a 1.10 ("odds ratio") risk of regretting. For example: for surgeries performed in 24 years old women, regretting was 1.10 times more than expressed by women 25 years old, etc. They reported also that possibility of regretting was higher when surgeries were decided upon by others, such as resulting from medical indications.

Leader et al. (1983) studied the profile of 159 patients that requested reversal of sterilization. They observed that such desire was due, in most of the cases, to a new marital union, as these patients married very young, formed families sooner than the usual and were sterilized very young as well.

Pinotti et al. between July, 1985 and January, 1986, held interviews with 231 women at least three years after tubal sterilization was performed and under medical assistance at the Hospital das Clinicas at UNICAMP for the most different reasons, trying to evaluate satisfaction rates with surgery. They found 11.6% of women unsatisfied with sterilization. In this group of women, 50% were sterilized less than 25 years old.

Faúndes et al. (1991), studying at the Sterility Ambulatory of the DTG/FCM/UNICAMP, compared prevail of the tubal sterilization and the number of patients that requested for its reversal, during two 30 months periods and a 10 years interval (1978 till 1980 and 1988 till 1990). In the first period, 28% of the patients presented tubal factor and 2.4% of the total was represented by

patients asking for reversal. In the second period, 34.5% of patients presented tubal factor and 12.4% regret from surgery. All patients of the first period and 87.3% of the second one were submitted to sterilization less than 31 years old. In the second group 45.8% of the regretting patients had one or two children at the time surgery was performed.

Results above, pointed out by other sources as well (Grub et al., 1985; Divers, 1984), have conducted to the development of a systematic evaluation of the cases involving women, pregnant or not, who apply for sterilization surgery at the DTG/FCM/UNICAMP.

This report summarizes the experience of a multidisciplinary group in this evaluating process, presenting their activity in its entirety, since program started, in July, 1988 till December, 1989 and, afterwards, a detailed description of the medical and social characteristics of the cases analyzed between June, 1988 and July, 1989.

## MATERIAL AND METHODS

### *1 - Phases of the evaluation program of patients requesting sterilization surgery*

Starting June, 1988, DTG/FCM/UNICAMP created a graphic of attendance for all patients wishing sterilization, for both, patients of the Institute or sent to Institute by means of the primary assistance network in Campinas and neighborhood. Patients are divided into two groups following the same procedures: pregnant and not pregnant.

First step of the process consists in interviews held by a social assistant for social level evaluation of the couple, patient's surgery expectation and relationship conditions of the couple.

In the second phase, patients are scheduled for group activities, usually participating 8 women under the coordination of one nurse and one social assistant. This activity covers, basically, educational aspects of the reproductive physiology, sexuality, genitals anatomy and, mainly, diffusion of the general contraceptive devices (DIU, Condom, Diaphragm, etc.). Emphasizes critical considerations on definitive methods (tubal sterilization and vasectomy) with the purpose of enlarging patients acquaintance with this process.

Third step consists in an interview of the couple with the social assistant, trying to involve the partner in the process of the surgery, once both of them are responsible

for family schedule. At this moment, discussion is held, again, on expectatives regarding surgery, knowledge about contraceptive methods and, finally, if the surgical procedure is chosen, should be steadily agreed upon by the partner and this agreement must be attached to the other documents pertaining to the evaluating process. Whenever necessary, patients are directed for psychological attendance and evaluation, specially when observed that emotional factors influence excessively the request for surgery.

Finally, an evaluating commission, coordinated by a physician and a social assistant, a nurse and a psychologist (involved in the program), discuss each case separately and decide if surgery should be authorized or not.

Following situations are authorized:

1. Women more than 30 years old;
2. Having, at least, 3 children alive (preferably both sexes);
3. Having, at least, 5 years marital union relationship;
4. A firm agreement on surgery is supplied by the partner;
5. Medical indications are considered for the request (when anyone of the health group, pertaining or not to the Institution, indicates surgery as being a patient's health preventing measure).

### II - Casuistic

1,630 patients were evaluated between June, 1988 and December, 1989. From these, 812 were found pregnant during the process. First 418 cases evaluated by the program were separated for an accurate analysis of the medical and social characteristics.

Age, parity, number of children alive, sex of children, marital union duration and medical reasons indicating surgery were the characteristics analyzed. Groups of pregnant and not pregnant women were separated and groups approved and not approved were compared, considering the above mentioned characteristics.

### III - Data collections

Data referent to patient's medical and social variables were collected through informations stating on the interview index cards and clinical assistance file of the patients being observed at the DTG/FCM/UNICAMP.

A data base program was created, compiled for computerized dBase III plus language, using a 16 bits PC microsystem.

### IV - Data analysis

Data were analyzed with the support of a statistical package named Epiinfo 5.0 (Epidemiological Information), distributed by the Center of Disease Control, Atlanta, USA.

Differences in the continuous variable averages were studied throughout the "T" test of Student. Comparison between the results of the groups approved and not approved for surgery purposes were done using the Qui-square test. In both tests, statistical differences ranging 5% were considered as being significant.

## RESULTS

1,630 requests for female sterilization were evaluated during the period of June, 1988 till December, 1989. During this same period, 1,892 requests have been submitted but, at the time these data were collected, 262 cases were already in course.

Considering the processes concluded, 1,018 were approved, 197 cases were denied and 415 patients discontinued process.

Table 1 shows distribution of cases according to the origin of the petition and results.

The first 418 cases evaluated between June, 1988 and December, 1989 were studied according to characteristics such as age, parity, number of children alive, sex of children, marital union duration and medical indication.

Table 2 reflects distribution of groups considering age and evaluation results. Group of women 30 years old or more was approved for surgery in a proportionally higher degree than the others ( $p < 0,0001$ ).

**Table 1**  
Distribution of sterilization requests according to origin and evaluation results

Final results of the special evaluation	Evaluation premises (n)	Evaluation premises		
		Family schedule	Normal Prenatal	Prenatal
		(%)	(%)	(%)
Approved	1,018	54.3	68.7	68.5
Not approved	197,000	5.9	19.4	12.2
Retire	415,000	39.8	11.8	5.5
Total	1,630	818	656	156

**Table 2**  
Distribution of groups by age and surgery evaluation results

Age	Evaluation results		Total
	Approved	Not approved	
> = 30 years	275	56	331
< 30 years	43	34	77
Total	318	90	408

(p < 0,0001)

Table 3 shows distribution of the children alive and results of surgery evaluation. It may be observed that women with 3 children or more get surgery approval in a significantly higher percentage than the others (p < 0,0001).

Table 4 shows distribution of children per sex and approved surgeries. It can be observed that this criteria influenced the evaluation process in the same way as the others, i.e., children being the same sex, surgery was not indicated in most of the cases.

Distribution considering marital union duration and surgery indication results may be observed on Table 5, which shows that groups with more than 5 years of marital union duration obtained permission for surgery in a considerably higher level than the other ones (p < 0,0001).

Being at least one pathology present in patients applying for surgery, this fact has almost not interfered in the surgery indication, even if statistic test gave a "p" value less than 0,05. These results may be observed on Table 6 (p < 0,01).

**Table 3**  
Distribution of number of children and results of the sterilizing evaluation

Children alive	Evaluation results		Total
	Approved	Not approved	
> = 3	249	35	284
< 3	69	55	124
Total	318	90	408

(p < 0,001)

**Table 4**  
Distribution of children by sex and results of sterilization evaluation

Sex of children	Evaluation results		Total
	Approved	Not approved	
Different	242	48	290
Same	76	42	118
Total	318	90	408

(p < 0,001)

**Table 5**  
Distribution of the marital union duration and results of sterilization evaluation

Duration of marital union (years)	Evaluation results		Total
	Approved	Not approved	
> = 5	283	67	350
< 5	35	23	58
Total	318	90	408

(p < 0,0001)

Any pathology presence had shown more significant influence when patients, less than 30 years old, were evaluated separately, as it may be seen on Table 7 - distribution of pathologies and evaluating results for surgery indication. In this group, presence of at least one pathology reinforced the surgery indication in a very significant degree from the statistical point of view (p < 0,005).

## CONSIDERATIONS

Tubal sterilization surgery represents a very significant change in woman's life, in what refers to her reproductive life, her marital relationship and, obviously, impossibility of becoming pregnant by the usual way.

This report presents a methodology of selecting patients with the purpose of reducing sorrow after surgery is performed. It is not necessary to emphasize that we do

**Table 6**  
**Distribution considering patients candidates to surgery presenting at least one pathology and the evaluation results**

Pathology	Evaluation results		Total
	Approved	Not approved	
Present	151	29	180
Absent	167	61	228
Total	318	90	408

(p < 0,05)

**Table 7**  
**Distribution of pathologies, existent or not, and evaluation results for surgery purposes considering patients less than 30 years old**

Pathology	Evaluation results		Total
	Approved	Not approved	
Present	31	13	44
Absent	12	21	33
Total	43	34	77

(p < 0,005)

not intend to demonstrate decreasing of the dissatisfaction levels of patients submitted to sterilization, as this matter will be investigated in the future among patients selected under these standards.

The DTG/FCM/UNICAMP interest in the tubal sterilization began long ago, not only in what refers to medical aspects for its performing but, also, proper adequation of the method to patients inclined to surgery procedures. This objective has resulted in proposals directed by this Department to the health authorities, in order to recognize that sterilization is a fact, that it may and must be ruled.

Based on data already published and our own, in what refers to medical and social profile of patients who declared dissatisfaction with this kind of surgery (Boring, Rochat & Becerra, 1988; Leader et al., 1983, Pinotti et al., 1986; Faúndes et al., 1991), we have developed the following procedures for selection of candidates, having in mind three objectives.

First, as this is an university service, we hope that our interns and residents seriously consider the contraceptive methods as a whole and describe adequate situations for the definitive ones. We are sure that these professionals, in a near future, will occupy a fundamental position in what refers to contraceptive methods indication, being even possible to maintain a critical and informative position in the community they will be working for.

Second, as we believe that, when a patient asks for surgery, she is more inclined to think about the reasons for choosing sterilization, under a favorable condition to enlarge her knowledge. Beared by this same hope, we expect these patients propagate their knowledge and feelings acquired during their confinement.

Last, but extremely important, is the diffusion of other reversal but not less firm contraceptive methods which, in their largest part, patients we assist are not aware of. Within this same objective, we want to emphasize that women do not need to become pregnant in order to choose a contraceptive method, definitive or not, and specially sterilization is not necessarily preceded by a cesarean section, being possible to be done after a normal birth occurs.

The data showed demonstrate that specific parameters of age, number of children alive, their sex, marital union duration and presence of maternal clinical pathologies result in the selection of a quite uniform group of candidates for surgery.

Table 1 results direct our attention to the fact that approval among pregnant women was higher than in the groups of not pregnant patients. However, this was determined by a great retire level of not pregnant women.

As selection requirements are the same for both of the groups, we have concluded that group of not pregnant women decided for another more adequate method during the process or found that the moment was not exactly the most indicated one for surgery procedure.

This result reinforces as well the opinion of the staff involved in the selection process - that the pregnancy period is the most inadequate one to take such decision, as it still rests some time before the birth occurs.

Informations shown in Tables 2 till 5 demonstrate that the group involved in the selective process maintained a coherent position in what refers to criteria adopted for such activities. We must observe more carefully Tables 6 and 7, which describe selective results when existing some maternal clinical pathologies. It may be seen that in women

less than 30 years old, the existence of at least one pathology, granted indication for surgery in a significantly higher proportion than in the group presenting no clinical pathologies.

## CONCLUSION

Tubal sterilization is a contraceptive method deeply diffused in our commonwealth presenting, however, a high regret percentage if conditions under which it is

indicated persist, i.e., patients were not informed about other methods.

Health authorities should definitively recognize the existence of sterilization as a problem to be faced and widely discussed, proposing modifications to the text of Article 129 of the Penal Code, enabling legalization of procedures, so that its financing may be allowed by the health system on disposal for our people, i.e., SUS (Health Unified System) together with other reversal contraceptive methods.

Selective process proposed by this report may be used as model by the commonwealth services on disposal for women, resulting in less regretting risks.

## RESUMO

**Objetivo:** Analisar a experiência multidisciplinar na seleção de pacientes candidatas a laqueadura tubária. **Material e Métodos:** São apresentados os resultados preliminares da aplicação de um protocolo de avaliação de pacientes candidatas à laqueadura tubária utilizados por uma equipe multidisciplinar. **Resultados e Conclusão:** Os autores concluem que o uso de parâmetros definidos de idade, paridade, tempo de união conjugal, número de filhos vivos e a presença de patologias maternas são úteis na identificação de pacientes com menor probabilidade de arrependimento após a cirurgia.

## REFERENCES

1. BORING, C.C.; ROCHAT, R.W. & BECERRA, J. - Sterilization regret among Puerto Rican womn. **Fertil Steril** 49:973, 1988.
2. BRAHAMS, D. - Sterilization of a mentally incapable woman. **Lancet** 1089:1275, 1989.
3. DIVERS, W.A. - Characteristics of women requesting reversal of sterilization. **Fertil Steril** 41:233, 1984.
4. DRIFE, J. - Sterilization - The before and after. **The Practitioner** 232:39, 1988.
5. FAÚNDES, A. et al - Frequência e adequação no uso de métodos contraceptivos por mulheres de Campinas. **Rev Paul Med** 104(1):44-46, 1986.
6. GRUBB, G.S. et al. - Regret after decision to have a tubal sterilization. **Fertil Steril** 44:248, 1985.
7. LEADER, A. et al - A comparison of definable traits in women requesting reversal of sterilization and women satisfied with sterilization. **Am J Obstet Gynecol** 145:198, 1983.
8. PINOTTI, J.A. et al. - Identificação de fatores associados à insatisfação após esterilização cirúrgica. **Gin Obstet Bras** 9:304, 1986.