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VASECTOMY: EFFICACY, SATISFACTION AND IMPACTS ON QUALITY OF LIFE

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Lucas Fernandes Vasques[1], Gabriel Manfredini de Barros Ribeiro[2], João Marco Braz Scarpa Mariano Pereira[3], Leonardo de Oliveira Antunes[4], Rodrigo Duarte Berdun Silva[5], Andrei Ricardo Rodrigues Guedes[6], Isabella Siqueira Vilela de Oliveira[7] and Luiz Carlos Maciel[8]

ABSTRACT

Vasectomy is a male contraceptive method widely recognized for its efficacy and safety, with a significant impact on family planning. This retrospective study evaluated its effects on the quality of sexual and social life of men treated by the Unified Health System (SUS) at Santa Casa de Cunha, analyzing medical records and postoperative follow-up. A total of 17 patients were selected, of whom 11 underwent the procedure, aged between 26 and 51 years (mean age of 38 years), mostly married or in a stable union, with 2 to 4 children. Demographic data, sexual habits, surgical results, and evaluations after one year revealed azoospermia in 90.9% of the cases, good recovery and resumption of sexual life in 90% of the patients in the first three months, although 36% reported dyspareunia. After one year, 90% of men and 80% of partners were satisfied or very satisfied, with 45% noticing improvement in their sex life, despite cases of orchialgia. Age, relational stability, and number of children influence the decision, while inconsistent use of contraceptives after surgery suggests risk behaviors. The procedure is effective and well accepted, but it requires clear guidance and rigorous monitoring to optimize results and manage complications, highlighting its relevance in public health.

Keywords: Vasectomy. Family Planning. Male contraception. Quality of Life.

[1]Undergraduate student of Medicine at the University of Taubaté (UNITAU)
lucas_fvasques@hotmail.com
[2]Graduated in Medicine from the University of Taubaté (UNITAU)
gabriel_manfredini@live.com
[3]Graduated in Medicine from the University of Taubaté (UNITAU)
joaomarcobraz@gmail.com
[4]Resident in General Surgery at the University of Taubaté (UNITAU)
leonardoliveirantunes@hotmail.com
[5]Resident in Urology at the University of Taubaté (UNITAU)
Rodrigo.beddun@gmail.com
[6]Resident in Urology at the University of Taubaté (UNITAU)
andrei-guedes@hotmail.com
[7]Resident in Urology at the University of Taubaté (UNITAU)
isabellasvo@gmail.com
[8]Dr. in Surgical Sciences from the University of Campinas (UNICAMP)
Maciel.luizcarlos@gmail.com

INTRODUCTION

Family planning, which encompasses everything from marriage to retirement and the end of life, is essential for family health and stability (SANTOS, 2011). In birth control, previously exclusive to women, men have taken on an increasing role in contraception (CARNEIRO, 2012). In this context, vasectomy, due to its efficacy and safety, has been an extremely important measure for the role of men in contraception.

According to Cook (2014), vasectomy is currently considered one of the most effective and safe methods of male contraception. It consists of sectioning, excising and ligating the vas deferens, in order to prevent communication of the contents of the testicle, epididymis and initial portion of the vas deferens with the rest of the seminal pathway, retaining the spermatozoa that will be reabsorbed and making the semen sterile (BRAGA, 1998). This procedure was performed for the first time in 1830 and for a long time was concerned with the prophylaxis of orchiepididymitis after prostate surgeries and as an option for castration of marginalized individuals, gaining its notoriety as a contraceptive only around 1970, due to its low cost, safety, simplicity and efficiency (OLIVEIRA, 2005).

To date, there are two main surgical techniques widely used, both under local anesthesia, which reduces cost, morbidity and anesthetic complications, with preoperative trichotomy and no need for prophylactic antibiotics. The conventional technique is based on a unilateral or bilateral incision in the scrotum over the vas deferens, which is seized and dissected, then the surgeon chooses to section the duct or resect a segment of it, and ends with the occlusion of its testicular and abdominal extremities with stitches, hemoclips, electrocautery or interposition of fascia (WEIN, 2019).

The no-scalpel technique, on the other hand, begins with the apprehension of the vas deferens under the skin with fixation forceps, demarcating the place where hemostatic forceps with a sharp curved tip should be inserted, moving the tissues apart until it perforates the duct and brings it to the surface, where it will be sectioned and its ends ligated[4]. Despite shorter operation and recovery time, and fewer postoperative complications, the no-scalpel technique requires the use of specific forceps and greater experience of the surgeon in the technique (CHEN, 2004).

Although it is a low-complexity procedure, vasectomy is not free of aggravations. The most common early complications are hematomas (2%), mainly in the conventional technique due to the use of scalpels, and infection (3.4%) of both the surgical wound and urinary and epididymal infections, with rare cases of Fournier's syndrome described in the literature. Later, sperm granulomas, chronic pain secondary to congestive epididymitis or granuloma, formation of anti-sperm antibodies (60%) may develop. The mortality rate of this

procedure varies from 0.1 to 19 per 100,000 inhabitants according to the level of development of each country, and is related to the occurrence of infections (AWSARE, 2005). In addition, correlations between vasectomy and urolithiasis and prostate cancer have been demonstrated (AWSARE, 2005; BABOUDJIAN, 2022).

The confirmation of the success of the surgery is given through the verification of azoospermia after 2 to 3 months or 20 to 30 ejaculations after the intervention, to ensure the absence of spermatozoa remaining in the ejaculatory canal. However, the procedure may fail, that is, the patient can maintain an amount of immobile sperm greater than 100,000 or the presence of motile sperm in the ejaculate after 6 months of surgery, and when pregnancy occurs (COOK, 2014; MACIEL, 2008; SCHWINGL, 2000; SHARLIP, 2012).

However, even if the intervention is successful, there are reports of late spontaneous recanalization of the vas deferens, in 1 in 2000 men, up to 15 after the procedure (PHILIP, 1984; VERHULST, 2012). The cause of this fistulization is not well defined, but there are associations with the formation of sperm granulomas, proliferation of vas deferens epithelial cells, removal of a duct segment smaller than 10 mm, incomplete dissection of the ducts, cauterization technique for occlusion of the stumps, and the presence of scrotal abscesses (MACIEL, 2008).

Vasectomy is considered a method of permanent male sterilization, but it became reversible with the development of vasovasostomy, a microsurgical technique based on the reanastomosis of the vas deferens stumps, reestablishing communication between them and the permeability of the ejaculatory canal. Another option for this surgery is in vitro fertilization (JUNIOR, 2010).

After microsurgical vasoanastomosis, the presence of sperm in the ejaculate varies from 60-99%, as it depends on several factors such as time between vasectomy and reversal surgery, occlusion technique employed and the presence of sperm granulomas and anti-sperm antibodies. The chances of pregnancy after vasovasostomy range from 76-32% and are associated with more variables, for example the age of the partner and the quality of the semen analyzed in the vas deferens (ANDERSON, 2022; ARAÚJO, 2010).

Given the relevance of this issue to public health, quality of life, well-being and sexual satisfaction of men, research that thoroughly examines these issues is necessary to develop more knowledge on the issues and promote better health strategies for men and their families.

METHODOLOGY

This observational study, of a retrospective nature, is based on the analysis of medical records, evolutions and examinations of patients recruited by the Family Health team, who expressed interest in performing vasectomy, through campaigns promoted by the Unified Health System (SUS), in the hospital unit of Santa Casa de Cunha. Data collection was carried out based on the information contained in the medical records, which included demographic aspects, health history, and sexual habits of the patients, as well as data related to the surgical procedure and its long-term outcomes.

The selected patients underwent evaluation with a social worker and psychologist, and later a urological consultation, where they were informed about the procedure, its results, risks and complications. An informed consent form was also delivered, which they signed and signed in a notary's office, as required. In this stage, demographic data were collected, such as the patient's age, marital status, partner's age, number of children, and their respective ages; and previous sexual habits such as the use of contraceptives.

The surgeries were performed 60 days after the written expression of the desire to perform the procedure, at Santa Casa de Cunha. The procedure was performed under local anesthesia with 2% lidocaine without vasoconstrictor, with a median incision, removal of approximately 1 centimeter in length of the vas deferens on each side, followed by suturing with nylon 3 zeros, in addition to hemostasis with electrocautery and suturing of the scrotum wall with absorbable thread in order to reduce the need for postoperative consultations.

The patients returned for postoperative consultation with the family physician, who requested a spermogram after 90 days or 20-30 ejaculations to confirm efficacy. After the spermogram, the patients returned again to present the results and, finally, after a year of the procedure, they had a new consultation, where they were asked about the impact of vasectomy on their lives.

In this stage, data were collected on the patient's previous knowledge about the procedure, pain during surgery, evaluation of the care provided, and satisfaction with recovery. Aspects related to sexual life after surgery were also addressed, such as sexual intercourse in the first 3 months, the use of contraceptives and the occurrence of dyspareunia. In addition, the satisfaction of both the patient and the partner in relation to the procedure, the impact on sex life and side effects were evaluated.

These data were analyzed to assess the impact of vasectomy on the quality of sexual and social life of patients. To this end, the collected data were tabulated and submitted to statistical analysis in order to identify possible correlations and determine the long-term effects of the procedure.

RESULTS

17 patients were selected for surgery, all of whom were present in the preoperative evaluation, which included exams and consultations with social assistance and psychology. The demographic profile revealed that the men were between 26 and 51 years old, with an average age of 38 years. Among them, 10 were married, 2 lived in a stable union, 2 were divorced, one patient divorced after the procedure, and 2 were single. Among married men or in a stable union, relationships lasted from 4 to 21 years, with an average of 10 years. In addition, 75% had 2 or 3 children, 20% had 4 children, and only 1 had an only child. The partners were, on average, 33 years old, with an average age 5 years younger than the men. Regarding the use of contraceptive methods, 50% of the men did not use any method. Among those who used, 4 couples opted for condoms and 7 for oral contraceptives (OC), and 3 of these combined methods (Table 1).

DEMOGRAPHIC PROFILE AND CONTRACEPTIVE USE

		All (17)	Vasectomized (12)	Dropouts (5)
Age	Average	37,7 (26-51)	37,7 (26-51)	37,6 (30-49)
Marital status	Married	11	8	3
	Divorced	2	2	0
	Stable Union	2	2	0
	Single	2	0	2
Age of Partner	Average	33,3 (23-46)	35,1 (23-46)	27,3 (24-32)
Relationship Time	Average	10,9 (3-21)	12,1 (4-21)	7 (3-10)
Number of Children	1	1	1	0
	2 or 3	13	8	5
	>3	3	3	0
Contraceptive Use	None	9	7	2
	Condom	4	3	1
	ACO	7	4	3
	Combined	3	2	1

Prepared by the authors (2025)

Of the 17 patients, only 12 proceeded with the procedure. Patients who dropped out had a similar demographic profile, but when the groups were analyzed separately, a higher proportion of single people stood out (2 out of 3), who were also the only ones who did not use condoms. In addition, the partners of these dropouts had a mean age of 27 years, 8 years less than the average of the partners of those who underwent vasectomy (Table 1).

Of the 12 patients who attended for the vasectomy, only one was unable to complete the procedure due to not being able to withstand the manipulation of the scrotum, even with local anesthesia. Of the 11 who underwent the surgery, 3 reported pain during the procedure, 6 felt only mild discomfort, and 3 reported no discomfort at all.

Among the 11 who underwent vasectomy, 10 had complete azoospermia. One patient did not undergo the spermogram because he had moved and missed the clinical

follow-up with the health center. Half of the patients underwent the exam three months after surgery, while 30% did so after five months. All had a good postoperative recovery. Ten patients resumed their sexual life in the first three months, with half using condoms and the other half not using any contraceptive method. During this period, 3 reported dyspareunia; After three months, 2 of them still complained, and another 2 started to report this condition, which was the only side effect observed.

After one year, the patients were evaluated on the care received and the impact on quality of life. All of them stated that they had been well informed about the surgery, its repercussions and possible consequences, and classified the care as good or excellent. Regarding personal satisfaction, 6 declared themselves very satisfied and 4 satisfied with the results. The partners reported similar satisfaction, with 5 very satisfied and 3 satisfied. However, the only couple with only one child was dissatisfied, expressing a desire to have more children; This man was also one of those who reported pain during sexual intercourse. Regarding sexual life, 5 patients reported improvement, while 5 did not perceive changes, although 3 of them still mentioned dyspareunia. Only 1 patient reported worsening of sexual life, attributed to dyspareunia.

DISCUSSION

The demographic profile of men who opted for sterilization is in accordance with that described in the literature, being men between 30 and 50 years old, married or in relationships of at least a decade and with two or more children (SILVA, 2014; DA SILVA, 2021; ALENCAR, 2022). Thus, age, relationship stability and the number of children prove to be the determining factors for decision making. This is evidenced by the fact that, among dropouts, their partners were significantly younger, and there was a higher proportion of single men; And among those who underwent the procedure, the only case of regret occurred in a patient who had only one child.

Although vasectomy is considered a permanent sterilization method, there are complex reversal procedures, such as microsurgical vasovasoanastomosis of the vas deferens, but this method has lower success and pregnancy rates, which vary according to the time of vasectomy and the age of the partner (ANDERSON, 2022). The rules that define who can decide to perform a vasectomy were recently modified according to Law No. 14,443/2022. Now, men over 21 years old can opt for the procedure, as long as they express their desire at least 60 days in advance, and it is no longer necessary to have a minimum number of children or obtain the consent of their partner. This law, aiming to give the population greater freedom to decide on their family planning, established a profile

significantly different from that observed in the population studied and in the literature. This greater accessibility to vasectomy can increase the rate of regrets, which may generate greater fear among those who wish to undergo the surgery in the future.

According to the IBGE (2022), only 24% of men use condoms as a contraceptive method, even in the face of the risks of sexually transmitted infections and the possibility of pregnancy. It is observed that this proportion decreases even more with increasing age, reaching the lowest rates at the age at which patients seek vasectomy. This behavior was similar in the sample studied, since 50% of them did not use any contraceptive method, including the four who did not have a steady partner. This attitude was maintained in the first three months after the procedure, during which 90% of the patients reported having sexual intercourse, but only half of them used some method of protection, despite the guidance received about the failure of the procedure and the risk of pregnancy during this period. These data reflect a cultural trend toward risky behavior even among those who opt for a surgical procedure to avoid future conceptions.

The result of vasectomy, for the most part, results in greater personal satisfaction and improved sex life, due to the elimination of concerns about unwanted pregnancy, contributing to the narrowing of intimacy with the partner and the family bond (MARCHI, 2011; COSTA, 2016). In the sample analyzed, with the exception of the couple who started to want children and expressed dissatisfaction with the procedure, all the other participants and their partners reported being satisfied or very satisfied with the result. However, when analyzing the impact on sexual life, a divergent picture was observed from that frequently described in the literature: while 5 patients reported an improvement in their sexual activity, 5 others did not perceive changes, and 1 described a worsening. Among those who did not notice improvement, 4 patients mentioned the orchialgia problem. These data indicate that, although the procedure was satisfactory in the context of family planning, the presence of side effects can impact the individual's sexual activity in a way that even outweighs the psychosocial benefits involved. This raises alarm for the need for close and careful follow-up of possible sexual side effects post-vasectomy.

Despite the high satisfaction rate in the population studied, the importance of providing accurate information cannot be underestimated. All patients reported having received detailed guidance on the procedure, possible complications, and the potentially irreversible nature of the surgery, emphasizing the relevance of clear communication to avoid regrets. This concern is even more significant in the face of changes in family structure, as demonstrated by the case of a patient who faced a divorce after vasectomy. In addition, the risky conduct of half of the men, who did not use condoms in the first three

months after the procedure, together with the case of a patient who did not undergo the control spermogram, reinforce the need for close monitoring until confirmation of azoospermia.

CONCLUSION

Vasectomy is a highly effective and safe method of male contraception, with relevant impacts both on the individual's sex life and on their interpersonal relationships. Given its possible irreversibility, the decision for the procedure requires careful planning on the part of the patient, supported by adequate guidance from the health team. Although variables such as age, relationship stability, and number of children are considered the most indicative factors for the decision, these conditions are no longer legally mandatory. Thus, it is up to health professionals to ensure clear and effective communication about the benefits, risks, and implications of the procedure. In addition, close postoperative follow-up, especially until confirmation of azoospermia and management of any side effects, is key to optimizing outcomes and preventing complications.

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