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ORIGINAL ARTICLE

Introital primary and secondary dyspareunia: Multimodal clinical and surgical control[☆]

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Vestibulectomy;
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Summary

Background. – The objective of this study was to evaluate the outcome of vestibulectomy on insertional dyspareunia, in a group of physical and sex therapy treated patients.

Methods. – A group of vestibulectomized patients from January 2000 to February 2007 was reviewed in order to evaluate pre- and postoperative coital pain, possibility of vaginal intercourse and sexual satisfaction. Preoperative mean pain score was compared to postoperative, using a paired Student *t* test.

Results. – Mean age was 23.0 years (18–38), mean preoperative pain score on a scale of 1–10 was 6.9 ± 1.9 against 3.7 ± 3.5 postoperative ($P < 0.001$), and vaginal intercourse was possible in 36/40 (90%) of the evaluable total group of patients ($n = 61$) and 31/40 who reached sexual satisfaction. However, in a subgroup of 25 patients, if secondary vestibulodynia ($n = 16$) was markedly improved, with 7.2 ± 1.3 as the mean preoperative pain rating against 2.9 ± 3.1 postoperative ($P < 0.001$), in primary cases ($n = 9$), no significant vestibulectomy improvement was observed, with 6.6 ± 2.6 against 5.2 ± 3.4 postoperative ($P = 0.200$).

Conclusions. – Vestibulectomy following 10 weekly physical therapy sessions in addition to cognitive-behavioural sex therapy, appears to be a good surgical treatment of provoked

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vestibulodynia. Psychosexual and couple relational factors need advanced study for a minor group of resistant cases, especially in primary vestibulodynia where greater psychosexual counselling may be needed before attempting any surgical treatment.

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Introduction

Vulvar vestibulitis syndrome, recently renamed provoked local dysesthesia or vestibulodynia (Bergeron et al., 2001a; Kiecolt-Glaser and Newton, 2001; Moyal-Barraco and Lynch, 2004) presents a nosologic challenge, as well as a difficult control and treatment. Zolnoun et al., 2006 gave an excellent conceptual model for the pathophysiology of provoked vestibulodynia, based on three criteria: introital dyspareunia, tenderness to any light touch, and erythema. This very last factor, however, appears unreliable and independent from the dysesthesia problem (Bergeron et al., 2001b). Light touch tenderness is described by patients as sensitivity to menstrual pads, tampon insertion, or any physical exercise involving the perineum, such as bicycle or horseback riding. Goldstein et al., 2006 and Marinoff and Turner, 1991 reported a high degree of patient satisfaction with vestibulectomy and vaginal advancement to the perineal zone.

We report here a retrospective study involving 61 vestibulectomy patients. Through a confidential telephone questionnaire, variables such as possible vaginal intercourse, sexual satisfaction, pain intensity, and patient recommendation for this procedure were evaluated.

Patients and methods

Vestibulectomy patients were operated by B.L. from February 2000 to February 2006. Since retrospective studies, contrary to prospective ones, are submitted to normal professional and ethical management, and do not require formal submission to the ethics committee, patients were assured of complete anonymity by numerical coding only. Cases were classified on four levels of gravity: level 0, possible vaginal intercourse with friction pain and/or early 2 to 3 days post-coital burning or pain, level 1, probable vaginal intercourse in more or equal to 5/10 trials, level 2, possible vaginal intercourse in less or equal to 5/10 trials, level 3, impossible vaginal intercourse or intromission. These levels were established during the first visit and the subsequent follow-up controls on the Analog Visual Scale.

Assessment was performed with the Q-tip test on a counter clockwise movement starting at 3 o'clock, with mild and moderate pressure in two passes; pain level at the fourchette, 7–5 o'clock more or equal to 5/10, was considered pathognomonic and correlated with the subjective questionnaire. Vaginal digital dilatation and accommodation was also performed with a pain limit at two/three fingers insertion of less or equal to 2/10. Most of the vestibulectomy patients experienced a 5- to 7/10 pain response with two to three fingers.

Sexual abuse was verified and does not appear as a dominant or related factor to vestibulodynia: one case of sexual abuse at the age of 12 years was referred to psychotherapy and excluded from vestibulectomy, another operated-case with a 85% improvement, revealed postoperatively that she had suffered from sexual aggression.

Pathological specimens were not discriminatory, exhibiting negative, minimal or chronic inflammation. Strict selection criteria for surgery were used: physical therapy was administered for 10 weekly sessions, in order to offer medical control of the syndrome (Bergeron et al., 1997), and cognitive-behavioural sex therapy consultation/treatment was obtained before surgery decision, both in the primary vestibulodynia patients or secondary ones. Only those who were accepted for surgery by the sex therapist, and persistent post-physical therapy pain were retained for vestibulectomy (Goetsch, 2007); the rest were excluded.

Under general anaesthesia, the vestibular mucosa was removed one centimeter over and one centimeter under the posterior Hart line or junction between glycogenic or iodine-positive vagina and iodine-negative vestibular epithelium, as determined by Lugol staining (iodine 5%, potassium iodide 10%) from 9 to 3 o'clock including the hymeneal ring. The posterior vaginal mucosa was then undermined and lowered to the perineal line (Goetsch, 2007; Goldstein et al., 2006; Haefner, 2000; Traas et al., 2006) 3-0 Caprosyn⁵ monofilament interrupted dissolving sutures were used in order to avoid further introital narrowing. U-sutures were used at 7 and 5 hours. Eight to ten cm³ of Marcaine 0.5% for longer action and Xylocaine 2% in equal proportions, was injected subcutaneously at the end of the procedure to reduce recovery room Dilaudid (hydromorphone) consumption. Vaginal intercourse was not allowed before 3 months postoperatively. Four supplementary weekly physical therapy sessions, with digital vaginal dilatation and use of plastic dilators, were scheduled from the six to 10 postoperative week. Progressive active female intromission in superior position was then permitted.

Telephone interviews were conducted 1 to 7 years after surgery, since 1 year is generally considered as a standard for definitive response to the surgical treatment. Topics according to the Traas model (Traas et al., 2006) were obtained: is vaginal intercourse possible? What is the intensity of the coital pain? Have you obtained sexual satisfaction? Would you recommend the operation?

Statistical analysis: the results are reported with the mean \pm standard deviation. In order to study the difference between the mean pain score before and after the surgery,

⁵ Tyco medical, Canada. www.tycohealthcare.com.

Table 1 Pain score ($n=25$).

	Age	Duration (months)	Preoperative pain	Postoperative pain	<i>t</i> -value	Significance (<i>P</i>)
Whole group ($n=25$)	23.0 (18–38)	30.5 (4–84)	6.9 ± 1.9	3.7 ± 3.5	4.50	<0.001
Secondary vestibulodynia ($n=16$)	24.0 (18–38)	24.4 (4–60)	7.2 ± 1.3	2.9 ± 3.1	5.38	<0.001
Primary vestibulodynia ($n=9$)	21.1 (18–26)	41.3 (12–84)	6.6 ± 2.6	5.2 ± 3.4	1.38	0.200

the preoperative mean score was compared to the postoperative mean score, using a paired Student *t*-test.

Results

Mean age of study participants was 23.0 years (18–38) (Table 1). Mean duration of vestibulodynia was 30.5 months (4–84). Pain operative control was evaluated in our 25 matched patients at 6.9 ± 1.9 before surgery and 3.7 ± 3.5 , after ($P < 0.001$). Among the vestibulectomy patients, 10 felt over 3.5 pain, and 15 (60%) under 3.5, with none or a very mild pain. Also, secondary vestibulodynia (mean age 24.0 years, 18–38) was markedly improved at 7.2 ± 1.3 preoperative against 2.9 ± 3.1 postoperative ($P < 0.001$) in contrast with primary vestibulodynia (mean age 21.1 years, 18–26) at 6.6 ± 2.6 preoperative and 5.2 ± 3.4 postoperative ($P = 0.200$). Preoperative pain durations were at 24.4 months (4–60) for secondary and 41.3 months (12–84) for primary.

In the original group ($n=61$), vaginal intercourse was evaluable and possible in 36 patients over 40 (90%), with 31 over 40 (77.5%) obtaining sexual satisfaction and recommending the procedure. This gap deserves some consideration with other psychosexual factors, possible interpersonal relationship or cognitive-behavioural problems between sexual partners. Failures were offered use of biweekly non coital-associated 2% Xylocaine cream for 2 to 6 months, and tricyclic therapy (desipramine 25 to 100 mg daily, with 25 mg 2 weeks interval increments) for 4 to 6 months.

Discussion

This study shows a net improvement of provoked secondary vestibulodynia or introital pain in vestibulectomized patients having received presurgery physical and sex therapy.

Success rates of vestibulectomy vary greatly in the literature. Goetsch, 1991 described positive Q-tip testing in 78 general gynaecologic population over 210, and 31 (15% prevalence) fulfilled the term of vulvar vestibulitis; use of fluorouracil topical cream appeared causal in the most severe cases. She reemphasized the notion of underreported and underdiagnosed sexual dysfunction, and insisted on the bimodal aspect of vestibulitis, either by a low-pain threshold in the primary cases, against acquired factors such as HPV,

peripartum hormonal changes, chemical burns, possible podophyllin, group B streptococcus in the secondary. Lavy et al., 2005 obtained by modified vulvar vestibulectomy, a complete response in 39/59 (73.6%) treated patients, seven (13.2%) partial response, and seven (13.2%), no response. He underlined the fact that symptom elimination by surgical excision of the vestibule, suggested a physical etiology to the syndrome. Schneider et al., 2001 reported moderate to excellent improvement in 45 patients over 54 (83%), with further improvement in seven of them by repeat surgery; he underlined the point that 60% of his patients were Ashkenazi Jews with more liberal attitudes toward sexual problems, thus emphasizing a greater facility to report coital problems and sexual interference. Gaunt et al., 2003, using failed medical management as an operative indication, described a high rate of vestibulectomy success in 38 patients over 42 (90%) with pain scores varying from 8.9 (3–13) in preoperative against 1.3 (0–8) in postoperative for improved patients, and 7.0 (3–10) preoperative against 7.3 (6–10) postoperative, in the no improvement patients ($n=4$).

The failure of primary vestibulodynia control has been observed by Bornstein et al. (1997) in the association of spontaneous and provoked vestibulodynia patients. He invoked different aetiology for secondary vestibulodynia, namely acquired sexual viral and bacterial infections. Recently, Bohm-Starke and Rylander (2008) reported primary vestibulodynia cases with a lesser vestibulectomy benefit of 17% of complete cure or major improvement, against 56% in secondary vestibulodynia ($P = 0.003$). More research is needed for the partners and couple profiles, and length of relationship. Also, primary vestibulodynias have to be psychosexually thoroughly evaluated and possibly treated, in comparison with secondary cases, before attempting any surgery.

Limitations of the study are caused by the presence of psychosexual factors involved in the sexual process and the difficulty often encountered, to ponderate quantitatively their effect on the sexual response. Though, we excluded vaginism cases, such factors as a lower pain threshold, higher anxiety levels and apprehension, increased somatization and lower body image, justify the preliminary and conditional preoperative sexual therapy consultation/treatment. Operated patients appeared frequently vulnerable and discriminate, about their vulvar status and healing, stitches persistence, hymeneal caruncles. Local pain enhancement of systemic pain perception

has been reported by [Granot and Lavee \(2005\)](#). By the same token, our patients were seen rapidly in the early postoperative period for any distress, questions, anxiety or abnormal vulvar pain.

Conclusion

Vestibulectomy brings important relief and help to distressed patients and couples. More research is needed to evaluate partner dynamics and personal affect of patients.

Also, primary vestibulodynia patients present a real challenge for surgical indication; they should be investigated as well as the couple before attempting any vestibular resection.

However, this procedure appears justified and effective in secondary vestibulodynia, for controlling vaginal entry pain in screened patients, by preliminary preoperative physical and sex therapy.

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Contribution to authorship

B. Lambert did the main core of this study and surgically operated the patients, Y. Lepage did the mathematical statistics, and designed the sample structure. S. Bergeron revised completely the manuscript in his form and formulation, we acknowledge the support and contribution of Micheline Daneau for archival retrieval and clinical compilation. Martine Campeau and Louise Levasseur helped in the secretarial work and final edition of this manuscript.

Disclosure of interest

The authors declare that they have no conflicts of interest concerning this article.

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