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Research Paper

Retrospective Analysis of Saddle Block For Vaginismus Threatment

Medical Science

KEYWORDS : Vaginismus, Saddle Block, Sexual Dysfunction

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ABSTRACT

Introduction: Vaginismus is characterized by repeated involuntary contractions, when vaginal penetration occurs, of one-third of the outer layer of the perineal muscles surrounding the vagina. This study started with the idea that pain and contractions can be prevented by blocking the lower lumbar and sacral segments by using the saddle-block technique.
Materials and Methods: In this retrospective study, we screened 30 patients with a diagnosis of vaginismus who were treated with saddle block from 2005 to 2012. We recorded: the patients' heart rates and mean artery pressure values at entry, at 5, 10, and 20 minutes post-block and post-intercourse; age; marriage duration; saddle-block regression time; mean age of the spouses; the level of sensory block; whether sedation was applied; whether erectile dysfunction occurred; or whether any problem occurred during sexual intercourse after the procedure.
Results: The mean age of the patients was 22.37±2.51 years. The mean marriage duration was 17.9±14.62 months. The complete regression time of the saddle block was 117.97±10.78 minutes. Sedation was applied to two patients. Sexual dysfunction occurred after the procedure in only one patient.
Conclusion: Some vaginismus cases may be treated effectively by applying saddle block in favorable conditions and with careful hemodynamic follow-up.

INTRODUCTION

The term "vaginismus" was first announced by James Marion Sims in 1862 at the Obstetrical Society of London. Vaginismus is characterized by repeated involuntary contractions of one-third of the outer layer of perineal muscles surrounding vagina when penetration by a penis, a finger, a tampon or a speculum occurs (1). Despite being considered as the most common psycho-sexual disorder among women, the prevalence of vaginismus among women in the general population remains unknown. What is known is that the percent of women in sexual dysfunction clinics who suffer from this condition varies from 5% to 17%. This primarily or secondarily emergent condition causes disagreements in marriages and significant problems in couples (2).

Spinal anesthesia in standard doses facilitates ideal operating conditions for lower abdomen and extremity surgery. Although this anesthesia has several advantages, it may lead to prolonged motor and sensorial blockades or complications, and, thus, may lengthen the patient's stay in the post-operative recovery room and delay the patient's discharge from hospital (3,4,5).

Anesthesia can be used in pelvic organs: The saddle (saddle or chevalier patch) block technique (used in normal vaginal delivery) can block the lower lumbar and sacral segments (6). In this study, we started with the idea that the pain and contractions of vaginismus may be avoided by the selective blockade of the central plexus

MATERIALS AND METHOD

The study was conducted retrospectively after we obtained the approval of the local ethics committee. During our study, we screened 30 patients with a vaginismus diagnosis who were treated with saddle block from 2005 to 2012. All patients gave their informed consent. We also checked hemogram and blood coagulation values as a standard.

All patients and spouses were evaluated and treated in a psychiatric clinic after they had been diagnosed in an obstetrics clinic; however, treatment was unsuccessful. All of them were informed, in detail, about the procedure.

A peripheric central line was inserted into all patients with a 20-gauge (G) intravenous cannula before the intervention, and a 0.9% NaCl infusion was performed as 8 mL kg-1 h-1. Infusion was proceeded as 5 mL kg-1 h-1. The saddle block was performed in the patient's room. Emergency treatment requirements, such as 0.5 mg atropine and 10 mg ephedrine, were prepared for all patients before the procedure. The blood pressure (mmHg) and peak heart rate (PHR, beat min-1) values of patients were followed by a non-invasive method as a standard. Data were recorded as pre-saddle block, and 5, 10, and 20 minutes post-saddle block and post-intercourse. Patients were placed in a sitting position during the saddle block, and sterile conditions were provided. During the procedure, the median approach was used, and the intrathecal space was entered by a 27-gauge (G) Quincke needle (Exelint/California/U.S.) through L4-L5. A blockade was performed by giving administering 5 mg hyperbaric Bupivacaine (Heavy Marcaine %0.5/Astra Zeneca) after the detection of a clear cerebrospinal fluid flow and having the patients sit for 5 minutes. A pin-prick test was used to check the level in patients who were followed for 20 minutes after the blockade. Couples were left alone after it was confirmed that no elevation was observed within 5 minutes. The couples were given necessary supportive precautions and recommendations relevant to possible complications.

We recorded: age; marriage duration; saddle-block regression time; mean age of the spouses; level of sensory block; whether

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sedation was applied or whether erectile dysfunction occurred. We also recorded if any problems occurred after the procedure, in a 6-month follow-up to re-evaluate the patients.

RESULTS

Age, marriage duration, saddle-block regression time, and mean age of spouses are shown in Table 1.

No statistically significant difference was observed in the mean heart rate values of patients at entry, and at 5, 10, and 20 minutes post-block and post-intercourse (p=0.312) (Table 2).

A statistically significant difference was observed in mean artery pressure values of patients at entry, and at 5, 10, and 20 minutes post-block and post-intercourse (p=0.0001). Mean artery pressure values at entry were found to be significantly higher than the 5, 10, and 20 minutes post-block and post-intercourse mean artery pressure values (p=0.0001). Indeed, the 5 minutes, post-block mean artery pressure values were found to be significantly higher than the 10 and 20 minutes post-block mean artery pressure values (p=0.0001). No statistically significant difference was observed at the other time points (p>0.05) (Table 3).

The sensory block level of cases, whether sedation was applied, and whether erectile dysfunction or any other problem occurred are shown in Table 4.

Statistical Analysis

During data assessment, the Friedmann test was used in repeated measures, and Dunn's multi-comparison test was used in subgroup comparisons in addition to the descriptive statistical methods (mean, standard deviation, median, and frequency distribution).

The results were assessed according to the p<0.05 significance level.

DISCUSSION

According to the new concept of treating vaginismus, a multidisciplinary approach is recommended, because treatment is impossible if only a single specialty is used. In this approach, a gynecologist, a physical therapist, and a psychologist/sex therapist should be involved to evaluate and show the different aspects of vaginismus. Recommendations for treating this condition include: surgical interventions involving hymen resection; and incision of the vaginal orifice following dilatation. However, subsequent positive results obtained by only dilatation revealed the debate about the necessity of surgical intervention (7). Available treatments for vaginismus are divided into four 4 main categories: pelvic floor physiotherapy; pharmacological therapies; general psychotherapy; and sex/cognitive behavior therapy.

Breathing and relaxation, local tissue desensitization, vaginal dilators, pelvic floor biofeedback, and manual therapy techniques are used in pelvic floor physiotherapy.

Pharmacological therapy uses: local anesthetics (e.g., lidocaine); muscle relaxants (e.g., nitroglycerine pomade and botulinum toxin); oral analgesics; and anxiolytics (7,8). In a case report, it was noted that a muscle spasm was calmed by eliminating hyperesthesia with the topical lignocaine gel, and vaginismus was treated (9). Pacik et al. (10) performed progressive dilatation after applying an intra-vaginal bupivacaine injection to the bulbocavernosus, pubococcygeal, and puborectalis muscles, following intra-vaginal botox therapy, for 20 patients under anesthesia; they reported a success rate of up to 90%.

General psychotherapy varies, and includes: marriage; interactive; existentialist-experimental; relationship development; and hypnosis.

Sex/cognitive behavior therapy: In the 1970s, it was reported that vaginismus would be easily treated with behavior-focused sex therapy that involved vaginal dilatation.

Studies have shown that the physical properties of local anesthetics used in spinal anesthesia and the position of the patients were the most important factors in determining the distribution of local anesthetics within the cerebrospinal fluid. Spinal anesthesia is performed when the patient is in a sitting position. Limited involvement occurs in the sacral and lower spinal roots if the patient is kept in the same position (11,12). Saddle block is performed by injecting a small amount of local anesthetics, when the patient is in a sitting position, through L4-L5 and keeping the patient in that position for at least 5 minutes after the injection. Since the analgesia level does not exceed T10 dermatome in this block type, the hemodynamics of the patients are slightly affected (6). Although rare, the level may exceed T10, and hypotension may develop in the patients (13). In our study, the sensory block level got up to T11 in four patients. This could be the reason for the statistically significant changes in the mean artery pressure of patients. Since these changes in the mean artery pressure were not more than 30%, ephedrine application was not needed. Possible complications of spinal anesthesia, such as nausea, vomiting, urine retention, lumbar pain and headaches, did not occur.

Dyspareunia is often observed with vaginismus (7,9). There is an unwillingness for the patient who had vaginismus to allow vaginal penetration because of the painful trials, pain anticipation, and fear (14). We think that contraction does not occur, since saddle block removes pain only in the perineum without developing motor blockade and that the sexual intercourse is successfully happened. The spouses of two patients in the study showed erectile dysfunction. These cases were given a 50 mg tablet of sildenafil orally. Two patients required sedation. The patient was administered intravenously 2 mg midazolam, and the Ramsay Sedation Scale of this patient was assessed as 2. Vaginismus continued in only one of the patients after the procedure. The other patients were effectively treated.

Study Limitations: There are some limitations in this study, such as the limited number of cases and its retrospective design.

CONCLUSION

Some vaginismus cases may be treated effectively by applying saddle block in favorable conditions and with careful hemodynamic follow-up.

Table 1: Demographic data

	Min.	Max.	Mean ± SD
Age (year)	18	28	22.37±2.51
Marriage (month)	6	90	17.9±14.62
Total Saddle Block Time (min)	98	140	117.97±10.78
Partner's Age (year)	20	31	25.97±2.98

Table 2: Peak heart rate

	Min.	Max.	Mean ± SD
Baseline	56	105	76.5±12.35
5th min after block	58	110	78.43±12.1
10th min after block	60	101	77.63±11.23
20th min after block	60	107	76.77±10.78
After intercourse	64	105	75.9±9.26
p			0.312

Table 3: Mean arterial pressure

	Min.	Max.	Mean ± SD
Baseline	60	88	75.9±6.84
5th min after block	60	86	73.1±6.53
10th min after block	58	80	70.27±6.25
20th min after block	57	81	70.23±6
After intercourse	60	83	71.5±6.27
p			0.0001*

*p<0.05

Table 4: Data after saddle block

		n	%
Sensory block level	T7	1	3.3
	T8	4	13.3
	T9	9	30
	T10	12	40
	T11	4	13.3
Sedation	No	28	93.3
	Yes	2	6.7
Erectile Dysfunction	No	28	93.3
	Yes	2	6.7
Re-vaginismus after the procedure	No	29	96.7
	Yes	1	3.3

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