Print ISSN 1110-208X.
Online ISSN 2357-0016

Study of the Effect of Localized Injections of Autologous Platelet Rich Plasma (PRP) for the Treatment of Female Sexual Dysfunction

Hanem M. Alsayed, Mohamed F. El-Sherbiny, Mahmoud R. Fayed,
Mustafa A. El-Sayed, Walid M. Tawfik

Abstract:

Background: Female sexual dysfunction (FSD) affects up to 78% of women and significantly impairs quality of life. This investigation was designed to assess the therapeutic impact of autologous PRP injections targeted to the anterior vaginal wall at the G-spot region in women presenting with female sexual dysfunction (FSD). **Patients and Methods:** A prospective interventional study was conducted on 33 married women with confirmed FSD, defined by a Female Sexual Function Index (FSFI) score ≤26.5 and orgasm domain score ≤3.75. PRP was processed around the clitoral region into the paraurethral segment of the vaginal wall at 3-week intervals. Clinical outcomes were evaluated through FSFI and the Female Sexual Distress Scale–Revised (FSDS-R) at baseline, 3, 6, and 9 weeks, and at 6-month follow-up. **Results:** At baseline, mean FSFI was <26, with subdomain scores as follows: desire 3.19 ± 1.15, arousal 2.35 ± 1.47, lubrication 2.15 ± 1.27, orgasm 2.14 ± 1.30, satisfaction 1.88 ± 1.62, and pain 1.69 ± 1.38. Pre-treatment FSDS-R averaged 20.11 ± 11.1. FSFI demonstrated significant improvement in 3 weeks (17.53 ± 2.68) and progressively increased, peaking at 28.68 ± 4.10 by 6 months ($p<0.001$). Parallel reduction in sexual distress was noted, with FSDS-R declining to 12.32 ± 3.1 in 6 months ($p<0.001$). Enhancements were significant across all FSFI domains. **Conclusion:** Localized PRP injection constitutes a promising and safe intervention for FSD, offering substantial improvements in sexual desire, arousal, lubrication, orgasm, and satisfaction, alongside reductions in distress levels. Further large-scale, multicenter studies are required to corroborate these preliminary results.

Keywords: Platelet-Rich Plasma, Female Sexual Dysfunction, FSFI, FSDS-R, Regenerative Therapy.

Obstetrics and Gynecology Department, Faculty of Medicine Benha University, Egypt.

Corresponding to:
Dr. Hanem M. Alsayed.
Obstetrics and Gynecology Department, Faculty of Medicine Benha University, Egypt.
Email: hanemattia697@gmail.com

Received:
Accepted:

Introduction

Regenerative medicine has emerged as a rapidly expanding field, offering novel therapeutic strategies that utilize the body's own cells and bioactive products to stimulate repair and functional recovery of damaged tissues. One such approach is platelet-rich plasma (PRP), which is generally defined as a blood-derived component with a platelet concentration higher than baseline levels found in whole blood [(1)]. PRP has been extensively studied in wound care, orthopedics, dental surgery, and aesthetic procedures, demonstrating effectiveness and safety without serious side effects [(2)]. Its therapeutic potential is attributed to the rich content of growth factors, cytokines, chemokines, and proteins secreted by platelet granules, which mediate angiogenesis, collagen synthesis, stem cell recruitment, and tissue remodeling [(3)].

Female sexual dysfunction (FSD) represents a complex spectrum of disorders involving desire, arousal, orgasm, and sexual pain, leading to impaired quality of life in a large proportion of women worldwide. The etiology of FSD is multifactorial, encompassing organic, psychological, and relational components, which may vary greatly between individuals. Consequently, management requires a comprehensive approach that includes sexual history-taking, physical evaluation, and consideration of interpersonal dynamics, motivation, and psychological comorbidities before selecting a therapeutic modality [(4)]. Despite the availability of pharmacological, hormonal, and psychosexual interventions, response to treatment remains inconsistent, highlighting the need for new, safe, and effective therapeutic alternatives [(5)].

Among invasive approaches, injection therapies targeting the vaginal or periurethral regions have been explored for conditions such as urinary incontinence and sexual disorders, and evidence indicates that such procedures are technically safe and well tolerated [(6)]. The so-called "G-shot," involving hyaluronic acid filler injections into the anterior vaginal wall to augment the controversial Gräfenberg spot, has been promoted to enhance orgasmic intensity. However, concerns regarding adverse outcomes such as granuloma formation have led professional organizations, including the American College of Obstetrics and Gynecology, to discourage its use. Thus, identifying an injectable material that achieves beneficial therapeutic outcomes without undue complications remains a priority [(7)].

PRP offers a biologically rational solution in this context, given its autologous origin and regenerative properties. Platelets contain over 800 proteins, including cytokines, chemokines, and hormones, as well as approximately 1,500 bioactive factors that promote tissue repair and regeneration [(8)]. PRP also activates local pluripotent stem cells, supporting tissue rejuvenation and functional enhancement in both damaged and non-damaged tissue [(9)]. The preparation of PRP is relatively simple, typically performed in an outpatient setting by centrifugation of autologous blood, with the double-spin method providing higher concentrations compared to earlier single-spin protocols [(10)]. Once activated, PRP must be applied promptly to ensure viability and optimal effect [(11)].

Given these properties, PRP is considered as a novel curative option for FSD, aiming to restore and enhance female sexual response by improving local vascularity, tissue elasticity, and neurosensory function. Considering the limitations of current modalities and the multifactorial nature of FSD, the use of PRP represents a promising, biologically based approach that warrants systematic clinical evaluation [(12)].

Therefore, this investigation investigated the therapeutic impact of PRP administration into the anterior vaginal wall at the G-spot in women experiencing FSD.

Patients and methods:

Study design and population

This work was designed as a prospective interventional clinical trial, enrolling 33 women suffering from FSD. Recruitment extended over nine months, conducted

within the gynecology outpatient clinic at Benha University Hospital, in addition to a number of private practice centers. The study was from 2022 to 2025.

Ethical Considerations

Before inclusion, every participant received a detailed explanation of the research objectives, then signed written informed consent. Each subject was coded for confidentiality, and the study protocol was reviewed and granted approval by the Research Ethics Committee, Faculty of Medicine, Benha University

Sample Size Calculation

The number of women required was calculated in accordance with the prevalence of FSD (72%). Using Epi Info version 7.2.4.0, with a 95% confidence interval and a 5% margin of error, the minimum sample size was estimated as 33 participants.

Eligibility Criteria

Women considered suitable were those who were married, literate, and aged between 20 and 60 years, presenting with confirmed dysfunction (FSFI ≤26.5 and orgasm sub score <3.75), having normal platelet count, and not receiving any treatment for sexual dysfunction nor anticoagulant therapy. Exclusion applied to women who were unmarried or previously married, pregnant, menstruating at the time of recruitment, carrying active genital or systemic infections, having prior genital operations, malignancy, systemic disorders interfering with sexuality, taking chemotherapy or antidepressant medication, suffering from primary anorgasmia, or having coagulation or platelet abnormalities, as well as those declining participation.

Clinical Evaluation

Every participant underwent a complete medical, sexual, obstetric, and gynecological history. General examinations involved weight, height, body mass index, and screening for anemia. A thorough systemic and pelvic examination was performed, including inspection of the external genitalia, assessment with a speculum, two-finger vaginal exploration, bimanual palpation, and where indicated, rectovaginal examination. To exclude conditions such as fibroids, adenomyosis, ovarian masses, or endometrial pathology, a transvaginal ultrasound was carried out.

PRP Preparation

PRP was prepared by a double centrifugation technique. Between 13.5 and 15 mL of venous blood was collected in a 20 mL syringe preloaded with 1.5 mL anticoagulant citrate dextrose (ACD-A), then gently inverted. The sample was transferred into a YCELLBIO PRP tube, centrifuged at 3,500 rpm for four minutes, producing three layers: plasma, buffy coat, and red cells. The PRP-rich buffy coat was carefully aspirated, yielding about 1.0–1.5 mL, using an 18-gauge sterile needle. To maintain platelet activity, the preparation was injected within ten minutes of activation **[(10)]**.

PRP Injection Procedure

All procedures were done in a day-care setting, under local anesthesia. Patients were placed in the dorsal lithotomy position after bladder evacuation. A topical anesthetic cream containing lidocaine 2.5% and prilocaine 2.5% was applied to the clitoral and periurethral regions for thirty minutes. Injection was performed with insulin syringes, distributing 4–6 mL of PRP as follows: approximately 1–2 mL into clitoral tissue at the 12, 3, 6, and 9 o'clock sites, 1 mL bilaterally into the paraurethral vaginal wall, and 1–2 mL into the mid-urethral submucosa, both centrally and laterally. Sessions were repeated every three weeks, with a total of up to three applications. After each treatment, patients were monitored for 20–30 minutes to exclude immediate adverse effects.

Outcome Assessment and Follow-up

Therapeutic efficacy was measured with the Arabic version of the FSFI [(13)] and the Female Sexual Distress Scale–Revised (FSDS-R) [(14)]. The FSFI was administered at baseline, after every injection, and six months post-treatment, while the FSDS-R was completed at the beginning and at the six-month endpoint. The FSFI evaluates six domains, desire, arousal, lubrication, orgasm, satisfaction, and pain, with scores at

or below 26.5 considered diagnostic for dysfunction [15, 16]. The FSDS-R ranges from 0 to 52, where higher scores indicate greater distress. Clinical improvement was reflected by increased FSFI values and decreased FSDS-R scores.

Approval Code: MD 11-12-2021

Statistical analysis

Data analysis was conducted using SPSS version 24 (IBM, Armonk, NY, USA). Quantitative data were presented as mean ± standard deviation, whereas qualitative data were expressed as frequencies and percentages. Associations between categorical variables were tested with the Chi-square test, or with Fisher's exact test when expected values were <5. Principal component analysis (PCA) was applied for dimensionality reduction, and Bonferroni post-hoc correction was used where necessary. A p-value <0.05 was considered statistically significant, ≤0.01 highly significant, and ≤0.001 very highly significant.

Results:

The mean age of the participants was 49.53 ± 15.18 years, while the mean age of their husbands was 52.53 ± 13.18 years. The mean BMI was 26.32 ± 3.58 kg/m², and the mean parity was 3.16 ± 1.07. All participants were married and sexually active. One-third (33.3%) resided in rural areas, whereas 66.7% were from urban settings. Regarding education, 24.3% could only read and write, 42.4% had secondary education, and 33.3% held a university degree. Employment status revealed that 66.7% were unemployed, while 33.3% were employed. Sexual activity frequency per month was reported as 1–5 times in 84.8% of women and 6–10 times in 15.2% (Table 1).

Before PRP treatment, the total FSFI score of all participants was below 26, indicating dysfunction. The mean domain scores (mean ± SD) were desire 3.19 ± 1.15, arousal 2.35 ± 1.47, lubrication 2.15 ± 1.27, orgasm 2.14 ± 1.30, satisfaction 1.88 ± 1.62, and pain 1.69 ± 1.38. The pretreatment FSDS-R mean score was 20.11 ± 11.1. After PRP administration, the mean total FSFI score rose significantly to 28.68 ± 4.10, with notable improvement already exhibited at the 3-week evaluation. At 6 months, all FSFI subdomains demonstrated comparability in showing marked enhancement, with desire 4.94 ± 0.43, arousal 4.86 ± 1.23, lubrication 4.62 ± 0.84, orgasm 4.38 ± 1.24, satisfaction 4.51 ± 0.87, and pain 4.51 ± 0.87. These improvements were accompanied by a decline in FSDS-R mean score to 12.32 ± 3.1, reflecting reduced sexual distress. A significant and progressive change was observed across all subdomains beginning with the first treatment session (Table 2).

Comparability across different study durations demonstrated highly significant differences in FSFI and FSDS-R scores when baseline results were contrasted with those at 3, 6, and 9 weeks, as well as at 6 months after PRP administration (Table 3).

Correlation analysis revealed statistically significant negative associations between female age and satisfaction, as well as between husband's age and orgasm, satisfaction, and the total FSFI score. Similarly, marital duration correlated negatively with orgasm and satisfaction, while parity correlated negatively with satisfaction. In contrast, female age, husband's age, marital duration, and parity exhibited comparability in showing positive correlations with FSDS-R scores, indicating higher levels of distress with advancing age and increasing parity (Table 4).

No significant correlations were found between residence and either FSFI or FSDS-R. Regarding education, women with a university degree demonstrated lower FSFI scores but higher FSDS-R levels, whereas those able to only read and write showed higher FSFI scores and lower FSDS-R. Women with secondary education exhibited intermediate findings. Employment status also exhibited comparability, as employed women achieved higher FSFI scores and lower FSDS-R scores compared with unemployed women, although these differences were not statistically significant (Table 4).

Table 1: Female sexual dysfunction distribution after various times of PRP injection in studied cases according to FSFI and FSDS-R.

	Before PRP injection	After 3 weeks of PRP injection	After 6 weeks of PRP injection	After 9 weeks of PRP injection	After 6 months PRP	P
FSFI	12.63±3.78	17.53±2.68	20.18±2.12	21.61±1.51	28.68±4.10	0.02*
Desire	3.19±1.15	3.77±1.27	4.45±0.54	4.88±026	4.94±0.43	0.001*
Arousal	2.35±1.47	3.29±1.33	3.43±1.21	3.57±0.24	4.86±1.23	0.005*
Lubrication	2.15±127	3.53±2.65	3.73±0.11	3.89±1.2	4.62±0.84	0.02*
Orgasm	2.14±1.30	2.89±1.48	3.18±1.1	3.56±1.21	4.38±1.24	0.03*
Satisfaction	1.88±162	3.88±1.23	4.01±0.07	4.19±0.40	4.51±0.87	0.05*
Pain	1.69±1.38	2.89±0.87	3.03±0.54	3.17±0.75	4.60±1.26	0.01*
FSDS-R	20.11±11.1	19.53±8.33	17.14±8.82	15.19±9.84	12.32±31	0.01*

Data were expressed as mean ± SD, P value is considered as significant if <0.05.

Table 2: Post hoc test (LSD) within the study duration in relation to FSFI and FSDS-R.

	Before PRP injection	After 3 weeks of PRP injection	After 6 weeks of PRP injection	After 9 weeks of PRP injection	After 6 months PRP
Before PRP injection	-----	< 0.001	< 0.001	< 0.001	< 0.001
After 3 weeks of PRP injection	------	-----	< 0.001	< 0.001	< 0.001
After 6 weeks of PRP injection	------	------	----	< 0.001	< 0.001
After 9 weeks of PRP injection	------	------	------	------	-----

P value is considered as significant if <0.05.

Table 3: Correlation between FSFI domains, FSDS-R., and demographic data in studied patients.

Variable		FSFI domains							
		Desire	**Arousal**	**Lubrication**	**Orgasm**	**Satisfaction**	**Pain**	**Total**	**FSDS-R**
Age	**r**	-0.23	-0.29	-0.02	-0.38	-0.63	0.03	-0.35	0.01
	p	0.29	0.37	0.92	0.07	0.004*	0.74	0.12	0.82
Husband Age	**r**	-0.25	-0.29	-0.19	-0.51	-0.57	-0.15	-0.42	0.16
	p	0.40	0.37	0.59	0.01*	0.005*	0.48	0.05*	0.53
Marriage Duration	**r**	-0.19	-0.44	-0.12	-0.47	-0.70	0.13	-0.34	0.13
	p	0.49	0.19	0.56	0.03*	0.001*	0.92	0.06	0.51
Parity	**r**	-0.26	-0.33	0.05	-0.38	-0.58	-0.16	-0.39	0.04
	p	0.39	0.22	0.70	0.11	0.005*	0.46	0.06	0.74

r: coefficient of correlation *: Statistically significant at $p \leq 0.05$

Table 4: Correlation between FSFI domains, FSDS-R., and demographic data in studied patients.

Variable			FSFI domains							
			Desire	Arousal	Lubrication	Orgasm	Satisfaction	Pain	Total	FSDS-R
Residence	Urban	r	0.97	0.69	0.38	0.59	0.28	0.24	0.54	0.52
		p	0.65	0.326	0.49	0.60	0.32	0.75	0.44	0.65
	Rural	r	0.90	0.196	0.702	0. 70	0.095	0.221	0.503	0. 76
		p	0.74	0.40	0.79	0.46	0.88	0.71	0.76	0.47
Education	Read and write	r	0.62	0.60	0.547	0.58	0.38	0.03	0.44	0.59
		p	0.01*	0. 03*	0.51	0.018*	0.29	0.69	0.014*	-0.012*
	Secondary	r	0.243	0.196	0.245	0.276	0.375	0.463	0.39	0.216
		p	0.38	0.81	0.84	0.95	0.271	0.37	0.79	0.91
	University	r	-0.15	-0.34	-0.15	-0.27	-0.20	0.16	0.34	0.24
		p	0.46	0.14	0.52	0.02*	0.01*	0.82	0.05*	-0.01*
Employment	Yes	r	0.69	0.74	0.18	0.87	0.98	0.43	0.84	0.97
		p	0.59	0.59	0.52	0.05*	0.04*	0.92	0.05	-0.04*
	No	r	0.19	0.44	0.12	0.47	0.70	0.13	0.34	0.49
		p	0.49	0.19	0.56	0.23	0.06	0.82	0.06	0.25

r: coefficient of correlation *: Statistically significant at $p \leq 0.05$

Discussion:

FSD, affecting 30–78% of women, is a major health issue that impairs quality of life, self-esteem, and relationships [17]. Current effective treatments are limited, with only psychological therapy and short-term testosterone considered Level A options [18]. Injectable fillers such as calcium hydroxyapatite or hyaluronic acid have been tried but carry risks of obstruction, infection, or granuloma, and are not recommended [19]. In contrast, PRP has demonstrated safety and regenerative potential across several fields, stimulating collagen, elastin, and vascularity without reported serious side effects [20]. PRP, popularized as the "O-Shot," enhances arousal, orgasm, lubrication, and reduces dyspareunia [21]. Based on this rationale, the present study was conducted on 33 women with sexual dysfunction at Benha University Hospital and private centers to evaluate the effect of PRP administration into the anterior vaginal wall at the G-spot.

The participants in this investigation had a mean age of 49.53 ± 15.18 years, while their mean body mass index (BMI) measured 26.32 ± 3.58 kg/m². All were married women who maintained sexual activity, and the mean age of their husbands was 52.53 ± 13.18 years. The mean parity among the study group was 3.16 ± 1.07. Regarding residence, 33.3% were from rural communities, whereas 66.7% were from urban environments. These baseline characteristics exhibited comparability with those reported in earlier research Runels and co-authors [22] conducted a pilot study including 11 women aged 24–64 years with dyspareunia or other forms of sexual dysfunction, demonstrating favorable responses to PRP injection. Similarly, Sukgen and co-authors [23] investigated PRP injection into the lower one-third of the anterior vaginal wall in 52 women with sexual dysfunction and orgasmic disorder. Their cohort had a mean age of 37.5 ± 9.8 years (range 22–55) and a mean BMI of 26.54 ± 5.10 kg/m² (range 18.29–40.00); notably, while all were sexually active, 21% were single and 79% were married. In line with our results, Salam and co-authors [24] performed a retrospective study on 30 sexually active women with female sexual dysfunction, reporting a mean age of 50.9 years (range 22–65), a mean BMI of 30.8 kg/m² (range 23–38.5), and a median parity of 3 (range 2–8).

Regarding education, 8 (24.3%) of the patients were read and write, 14 (42.4%) of the patients were secondary, 11 (33.3%) were university. Regarding Occupation 22 (66.7%) of the patients were unemployed and 11 (33.3%) of the patients were employed. Oyardı and co-authors, investigated the efficacy of injectable, platelet-rich fibrin for the treatment of vaginal atrophy and showed that, regarding education 3 (8.6%) were Illiterate, 19 (54.3%) were primary school, 9 (25.7%) were high school and 4 (11.4%) were university [25].

In the current study, the intercourse frequency (month) was in 28 (84.8%) patients and was 6-10 times /month in 5 (15.2%) patients. These findings are supported by Nouroozi and co-authors [26], who evaluated the safety and efficacy of autologous platelet-released growth factor injections for female sexual dysfunction in patients after pelvic irradiation. They reported that vaginal discharge played a key role in intercourse frequency and satisfaction. Prior to treatment, 60% of patients had dry vagina and 40% had mild discharge, which was insufficient for effective lubrication. After injection, 40% achieved mild to moderate discharge and 60% adequate discharge, leading to a marked increase in intercourse frequency and sexual satisfaction. Notably, while most patients expressed dissatisfaction before treatment, following injection 60% strongly agreed with improved sexual satisfaction, and all participants experienced enhanced outcomes, which correlated with total vaginal length, vaginal flexibility, and improved discharge.

In the present study, all patients had FSFI total scores below 26 before treatment. The mean pre-treatment FSDS-R score was 20.11 ± 11.1, while after the first PRP administration, FSFI rose to 17.53 ± 2.68 with FSDS-R decreasing to 19.53 ± 8.33. Scores continued to improve in 6 weeks (FSFI 20.18 ± 2.12, FSDS-R 17.14 ± 8.82) and 9 weeks (FSFI 21.61 ± 1.51, FSDS-R 15.19 ± 9.84). At six months, the FSFI total increased markedly to 28.68 ± 4.10, with significant improvements across all subdomains, desire (4.94 ± 0.43), arousal (4.86 ± 1.23), lubrication (4.62 ± 0.84), orgasm (4.38 ± 1.24), satisfaction (4.51 ± 0.87), and pain, while FSDS-R declined significantly to 12.32 ± 3.1. These findings align with Runels and co-authors [22], who reported a mean FSFI increase of 5.5 points ($p=0.01$), significant improvements in arousal ($p=0.009$), lubrication ($p=0.002$), orgasm ($p=0.05$), and a mean FSDS-R reduction from 17 to 7 ($p=0.04$). Similarly, Oyardı and Ural Ü [25] demonstrated sustained improvements in all FSFI domains at one and six months post-treatment, while Sukgen and co-authors [23] found a rise in FSFI from 13.61 ± 3.78 at baseline to 27.88 ± 4.80 post-treatment, with all subdomains showing significant gains ($p<0.001$). Salam and co-authors [24] reported an increase in FSFI from 16.50 to 28.50 and a drop in FSDS-R from 19.33 to 10.63 ($p<0.001$), further confirming the beneficial effect of PRP. Likewise, Kurniawati and co-authors [27] in a systematic review concluded that PRP significantly increased FSFI scores and reduced FSDS-R distress levels ($p<0.0001$), particularly improving orgasm and genital perception. Finally, Gaber and Shaltout [28] demonstrated highly significant improvements ($p<0.001$) across all FSFI domains after intravaginal and intraclitoral PRP, in agreement with the current findings.

Highly significant variations were documented across different follow-up intervals regarding FSFI and FSDS-R outcomes. Progressive improvements were observed at each time point when compared to the preceding evaluation (baseline prior to PRP, at 3 weeks, 6 weeks, 9 weeks, and after 6 months). In contrast, Oyardı and co-authors reported that no significant differences were detected between the first and sixth month scores [25]

Negative correlations of statistical significance were identified between female age and satisfaction, as well as between husband's age and orgasm, satisfaction, and the FSFI total score. Marital duration also showed a significant inverse relationship with orgasm and satisfaction, while parity was inversely correlated with satisfaction. Conversely, significant positive correlations were noted between both female and husband age with FSDS-R. Similarly, longer duration of marriage and higher parity were positively associated with FSDS-R. No significant associations were demonstrated between FSFI domains and place of residence. Regarding education, FSFI scores were lower among women with university degrees but higher among those with basic literacy (read and write level), while other categories displayed comparable

distributions. Employment status also influenced outcomes, as FSFI domains were higher among employed women. For FSDS-R, no significant correlation was observed with residence. However, women with university education had higher FSDS-R scores, whereas those at the literacy level exhibited lower values, with other education categories remaining similar. FSDS-R was generally lower in employed women. Consistently, Runels and co-authors reported no statistically significant effect on satisfaction or pain, though a tendency toward improvement in these domains was evident [(22)].

This investigation carries certain limitations, including the relatively small cohort size and single-center design, which may restrict generalizability. Moreover, the intricate nature of female sexual response, together with the substantial role of psychological and emotional influences, makes it difficult to rule out placebo effects. In addition, despite employing validated questionnaires, the reliance on subjective assessment tools introduces another limit.

Conclusion

Localized administration of PRP around the clitoris and into the paraurethral vaginal wall exhibited promising therapeutic potential for managing female sexual dysfunction. The intervention produced meaningful improvements in desire, arousal, lubrication, and orgasm, with additional favorable effects noted on satisfaction and pain.

Sources of Funding

The present research was conducted without the support of any targeted financial grant or sponsorship from governmental, academic, commercial, or non-profit funding bodies. The entire work was carried out independently, ensuring that the outcomes and interpretations presented are free from external financial influence or bias.

Author Contributions

All authors were equally engaged in the conception, design, execution, data analysis, and preparation of the manuscript. Each contributor played an integral role throughout the study process, thereby sharing joint responsibility for the validity, accuracy, and integrity of the reported findings.

Conflicts of Interest

The authors affirm that they have no conflicts of interest, whether financial, academic, or personal, that could in any way have influenced the conduct of the study, the interpretation of results, or the preparation of this manuscript. The research was undertaken and reported with full academic independence and objectivity.

References:

1. Jin Y, Li S, Yu Q, Chen T, Liu D. Application of stem cells in regeneration medicine. MedComm (2020). 2023;4:e291.
2. Kakudo N, Minakata T, Mitsui T, Kushida S, Notodihardjo FZ, Kusumoto K. Proliferation-promoting effect of platelet-rich plasma on human adipose-derived stem cells and human dermal fibroblasts. Plast Reconstr Surg. 2008;122:1352-60.
3. Pavlovic V, Ciric M, Jovanovic V, Stojanovic P. Platelet Rich Plasma: a short overview of certain bioactive components. Open Med (Wars). 2016;11:242-7.
4. Filocamo MT, Di Donato N. Evaluation systems of female sexual function. Female Sexual Function and Dysfunction: Springer; 2017. p. 33-45.
5. American College of Obstetricians and Gynecologists. (2011). Female sexual dysfunction. ACOG practice Bulletin No. 119. Obstetrics and Gynecology, 117(4), 996-1007.
6. Gafni-Kane A, Sand PK. Foreign-body granuloma after injection of calcium hydroxylapatite for type III stress urinary incontinence. Obstet Gynecol. 2011;118:418-21.
7. Benshushan A, Brzezinski A, Shoshani O, Rojansky N. Periurethral injection for the treatment of urinary incontinence. Obstet Gynecol Surv. 1998;53:383-8.
8. Qureshi AH, Chaoji V, Maiguel D, Faridi MH, Barth CJ, Salem SM, et al. Proteomic and phospho-proteomic profile of human platelets in basal, resting state: insights into integrin signaling. PLoS One. 2009;4:e7627.
9. O'Connell SM, Hessler K, Dardik H. Cascade(®) Autologous System Platelet-Rich Fibrin Matrix in the Treatment of Chronic Leg Ulcers. Adv Wound Care (New Rochelle). 2012;1:52-5.
10. Dohan Ehrenfest DM, Bielecki T, Mishra A, Borzini P, Inchingolo F, Sammartino G, et al. In search of a consensus terminology in the field of platelet concentrates for surgical use: platelet-rich plasma (PRP), platelet-rich fibrin (PRF), fibrin

gel polymerization and leukocytes. Curr Pharm Biotechnol. 2012;13:1131-7.
11. Dawood AS, Salem HA. Current clinical applications of platelet-rich plasma in various gynecological disorders: An appraisal of theory and practice. Clin Exp Reprod Med. 2018;45:67-74.
12. Wang X, Li J, Lu W, Gao F, Zhang S, Li J. Therapeutic roles of platelet-rich plasma to restore female reproductive and endocrine dysfunction. Front Endocrinol (Lausanne). 2024;15:1374382.
13. Anis TH, Gheit SA, Saied HS, Al kherbash SA. Arabic translation of Female Sexual Function Index and validation in an Egyptian population. J Sex Med. 2011;8:3370-8.
14. Derogatis LR, Rosen R, Leiblum S, Burnett A, Heiman J. The Female Sexual Distress Scale (FSDS): initial validation of a standardized scale for assessment of sexually related personal distress in women. J Sex Marital Ther. 2002;28:317-30.
15. Rosen R, Brown C, Heiman J, Leiblum S, Meston C, Shabsigh R, et al. The Female Sexual Function Index (FSFI): a multidimensional self-report instrument for the assessment of female sexual function. J Sex Marital Ther. 2000;26:191-208.
16. Safarinejad M. Female sexual dysfunction in a population-based study in Iran: prevalence and associated risk factors. International journal of impotence research. 2006;18:382-95.
17. Daneshfar F, Keramat A. Sexual dysfunction and divorce in Iran: A systematic review. J Family Med Prim Care. 2023;12:430-9.
18. Brotto LA, Altas M. New management approaches for female sexual dysfunction. Curr Opin Obstet Gynecol. 2024;36:372-7.
19. Csuka DA, Ha J, Hanna AS, Kim J, Phan W, Ahmed AS, et al. Foreign body granuloma development after calcium hydroxylapatite injection for stress urinary incontinence: A literature review and case report. Arab J Urol. 2023;21:118-25.
20. Su YN, Li J, Feng DH, Lu RR, Dong GX, Zhao DY. Efficacy and safety of autologous platelet-rich plasma for diabetic foot ulcers: a systematic review and meta-analysis. J Wound Care. 2023;32:773-86.
21. Verma R, Kumar S, Garg P, Verma YK. Platelet-rich plasma: a comparative and economical therapy for wound healing and tissue regeneration. Cell Tissue Bank. 2023;24:285-306.
22. Runels C, Melnick H, Debourbon E, Roy L. A pilot study of the effect of localized injections of autologous platelet rich plasma (PRP) for the treatment of female sexual dysfunction. J Women's Health Care. 2014;3:2167-0420.10001.
23. Sukgen G, Ellibeş Kaya A, Karagün E, Çalışkan E. Platelet-rich plasma administration to the lower anterior vaginal wall to improve female sexuality satisfaction. Turk J Obstet Gynecol. 2019;16:228-34.
24. Salam KA, Hatem el Sahar, Eman Mohamed Hassan, AbdelRazeq M. Value of injection of plasma-rich platelets in the vaginal and the clitoris in cases with female sexual dysfunction. GinPolMedProject. 2022;3:1-7.
25. Oyardı P, Ural Ü M. Evaluation of the efficacy of injectable platelet-rich fibrin in genitourinary syndrome of menopause. J Turk Ger Gynecol Assoc. 2025;26:15-9.
26. Samaie Nouroozi A, Alyasin A, Malek Mohammadi A, Mehrdad N, Mousavi SA, Vaezi M, et al. Autologous Platelet-Released Growth Factor and Sexual Dysfunction Amendment: A Pilot Clinical Trial of Successful Improvement Sexual Dysfunction after Pelvic Irradiation. Asian Pac J Cancer Prev. 2019;20:817-23.
27. Mardiyan Kurniawati E, Anisah Rahmawati N, Hardianto G, Paraton H, Hastono Setyo Hadi T. Role of platelet-rich plasma in pelvic floor disorders: A systematic review. Int J Reprod Biomed. 2023;21:957-74.
28. Gaber MA, Shaltout SA. Assessment of autologous platelet-rich plasma as a local therapy for female sexual dysfunction. Menoufia Med J. 2021;34:61-5.

To cite this article: Hanem M. Alsayed, Mohamed F. El-Sherbiny, Mahmoud R. Fayed, Mustafa A .El-Sayed, Walid M. Tawfik. Study of the Effect of Localized Injections of Autologous Platelet Rich Plasma (PRP) for the Treatment of Female Sexual Dysfunction. BMFJ XXX, DOI: 10.21608/bmfj.2025.425014.2675.