

The Role of Varicocelectomy on Patients with Premature Ejaculation and Varicoceles

Mohammed Abu El-Hamd, Hosam Farouk Abdel Hameed¹

Departments of Dermatology, Venereology and Andrology and ¹General Surgery, Faculty of Medicine, Sohag University, Sohag, Egypt

Abstract

Objectives: This study aimed to assess the role of varicocelectomy in the improvement of premature ejaculation (PE) in patients with clinical varicoceles and PE. **Materials and Methods:** In a prospective clinical study, it conducted on 85 male patients with clinical varicoceles and PE. Those patients were selected from whom attending the Outpatient Clinics of Andrology and General Surgery at Sohag University Hospital, Upper Egypt, between February 2015 and May 2016. All patients were subjected to preliminary assessment included a detailed medical and sexual history and general and genital examination. Patients were treated with open bilateral subinguinal varicocelectomy under spinal anesthesia. All patients were evaluated before and 6 months after the varicocelectomy by PE diagnostic tool (PEDT). The intravaginal ejaculatory latency times (IELTs) per minute and overall sexual satisfaction scores were evaluated before and 6 months after varicocelectomy. All patients were asked to indicate their sexual satisfaction on a scale of 0–5, with 0 being extremely dissatisfied and 5 being extremely satisfied. **Results:** The mean scores of the five questions of the PEDT measuring ejaculation control, frequency of inability of ejaculation control, ejaculation with minimal stimulation, feel of distress, and interpersonal difficulty owing to PE had statistically significant improvements at 6 months after varicocelectomy. The mean IELTs per minute and overall sexual satisfaction scores were significantly improved at 6 months after varicocelectomy. **Conclusions:** The study concluded that varicocelectomy improve PE in patients with bilateral clinical varicoceles and PE. Further prospective, controlled studies are needed to provide further characterization of this potential relationship.

Key words: Intravaginal ejaculatory latency times, premature ejaculation, premature ejaculation diagnostic tool, varicocelectomy, varicoceles

INTRODUCTION

Premature ejaculation (PE) is the most frequently encountered sexual complaint of men.^[1] PE exerts a significant psychological burden on men, their partners, male/partner relationship, and their overall relationship.^[2,3] The etiology of PE has been traditionally divided into psychogenic and biogenic factors.^[4]

Psychogenic factors include psychodynamic principles, early experience, sexual conditioning, anxiety, technique, and frequency of sexual activity. Biogenic factors include penile hypersensitivity, hyperexcitable ejaculatory reflex, hyperarousability, endocrinopathy, genetic predisposition, and 5-hydroxytryptamine receptor dysfunction (neurobiological theory).^[5-7] Urologic causes, including chronic prostatitis, have also been implicated.^[8]

Address for correspondence: Dr. Mohammed Abu El-Hamd, Department of Dermatology, Venereology and Andrology, Faculty of Medicine, Sohag University, Sohag, Egypt.
E-mail: mohammedadva@yahoo.com

This is an open access article distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 3.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as the author is credited and the new creations are licensed under the identical terms.

For reprints contact: reprints@medknow.com

How to cite this article: El-Hamd MA, Abdel Hameed HF. The Role of Varicocelectomy on Patients with Premature Ejaculation and Varicoceles. *J Integr Nephrol Androl* 2016;3:121-5.

Access this article online	
Quick Response Code:	Website: www.journal-ina.com
	DOI: 10.4103/2394-2916.193515

Varicocele is clinically defined as a palpable elongated, dilated, and tortuous testicular pampiniform plexus of veins in the spermatic cord. It is found in approximately 15–20% of the normal adult male population and is thought to be the most common treatable cause of male infertility factor.^[9,10] Varicocelectomy is the surgical varicocele repair and the gold standard treatment of the varicoceles.^[11]

There are many studies reported a high prevalence of PE in patients with varicoceles.^[12-15] However, the mechanisms linking varicoceles with PE appear to be complex and difficult to explain.^[15] Few studies found that varicocelectomy could improve PE in patients with varicoceles and PE.^[16,17]

Hence, this study aimed to assess the role of varicocelectomy in the improvement of PE in patients with clinical varicoceles and PE.

MATERIALS AND METHODS

In a prospective clinical study, it conducted on 85 male patients with clinical varicoceles and PE. Those patients were selected from whom attending the Outpatient Clinics of Andrology and General Surgery at Sohag University Hospital between February 2015 and May 2016. The study was approved by the Research and Ethical Committees at Sohag Faculty of Medicine. Informed consent was signed by all patients after full explanation of the surgical procedure and possible benefits and side effects. All patients were subjected to preliminary assessment included a detailed medical and sexual history and general and genital examination.

Patients were considered to have PE if fulfilled the criteria of International Society for Sexual Medicine that defined PE as a male sexual dysfunction characterized by (1) ejaculation which always or nearly always occurs prior to or within 1 min of vaginal penetration, either present from the first sexual experience or following a new bothersome change in ejaculatory latency; (2) inability to delay ejaculation on all or nearly all vaginal penetrations; and (3) negative personal consequences, such as distress, bother, frustration, and/or the avoidance of sexual intimacy.^[18] Furthermore, those included patients were ≥ 20 years, married, and in a stable sexual relationship for at least 3 months before this study.

Patients with history suggestive of one of the following conditions were excluded: (1) erectile dysfunction, (2) diabetes mellitus (DM), (3) chronic renal failure, (4) chronic prostatitis, (5) neurological diseases, and (6) central nervous system medications. Patients who received medications for PE over the last 3 months before the enrolment in the study were also excluded from the study.

All patients were evaluated before this study by the International Index of Erectile Function 5-item questionnaires to exclude the patients with erectile dysfunction (score will be more than 22).^[19] Varicoceles were diagnosed and graded (Grade 1, 2, or 3) on the basis of clinical genital examination.

All patients underwent scrotal Doppler ultrasonography to confirm the diagnosis of varicoceles and to assess the accurate testicular size before and 6 months after the varicocelectomy.

Serum total testosterone levels were measured before and 6 months after the varicocelectomy.

The indications for varicocelectomy were as follows: infertility with abnormal semen parameters in 80 (94.2%) patients and scrotal pain in 5 (5.8%) patients.

Patients were treated with open bilateral subinguinal varicocelectomy under spinal anesthesia. A 2–3 cm transverse skin incision 1 cm above and lateral pubic tubercle was done. The spermatic cord was delivered and placed over an artery forceps. With the using of magnifying loupe, all identifiable external spermatic veins and internal spermatic veins were separated, ligated, and divided. The identified artery (or arteries) and lymphatics were preserved. Patients were discharged on the same day of the operation.

All patients were instructed to do sexual intercourse 2–3 times/week and not take any medication for PE or ED during the follow-up period.

All patients were evaluated before and 6 months after the varicocelectomy by PE diagnostic tool (PEDT).^[20] The PEDT questionnaires include five questions about inability of ejaculation control, frequency of inability of ejaculation control, ejaculation with minimal stimulation, feel of distress, and interpersonal difficulty owing to PE. Response to each question is scored on a scale from 0 to 4. PEDT total score of ≥ 11 was used to define PE. All patients were instructed to record intravaginal ejaculatory latency time (IELT) using stopwatch before and after varicocelectomy. All patients were asked to indicate their sexual satisfaction on a scale of 0–5 as proposed by Kim and Paick, with 0 being extremely dissatisfied and 5 being extremely satisfied.^[21]

Statistical analysis

Statistical analysis was carried out using Statistical Analysis Software version 16 (SAS Institute, Inc., Cary, NC, USA). Data were recorded as mean \pm standard deviation (SD). Comparisons of data within the group were performed using paired *t*-test. $P \leq 0.05$ was considered statistically significant.

RESULTS

The present study included 85 male patients with clinical varicoceles and PE. Twenty-one patients were excluded (ten patients refused to participate in the study, seven patients with DM on oral hypoglycemic therapy, two patients with history suggestive of chronic prostatitis, and two patients with history of erectile dysfunction).

The mean age of the patients was 29.37 ± 4.42 years. The mean duration of marriage of the patients was 7.87 ± 0.84 years. The mean duration of PE of the patients was 4.02 ± 1.93 years. The mean frequency of intercourse of the patients was 3.54 ± 0.69 /week.

The clinical genital examination and scrotal Doppler ultrasonography revealed that at the left side, 11 (13%) patients had 1st Grade varicoceles, 34 (40%) had 2nd Grade varicoceles, and 40 (47%) patients had 3rd Grade varicoceles, while at the right side, 32 (37.7%) patients had 1st Grade varicoceles, 28 (33%) had 2nd Grade varicoceles, and 25 (29.4%) patients had 3rd Grade varicoceles.

The mean scores of the five questions of the PEDT measuring ejaculation control, frequency of inability of ejaculation control, ejaculation with minimal stimulation, feel of distress, and interpersonal difficulty owing to PE had statistically significant improvements at 6 months after varicocelectomy ($P = 0.0001$). Total scores (mean \pm SD) at 6 months after varicocelectomy were significantly lower as compared to initial preoperative evaluations (9.84 ± 2.01 and 16.81 ± 2.29 , respectively) [$P = 0.0001$, Table 1].

The mean IELTs per minutes at 6 months after varicocelectomy were significantly higher as compared to initial preoperative evaluations (5.14 ± 0.77 and 0.93 ± 0.16 , respectively) [$P = 0.0001$, Table 2]. The mean values for the overall sexual satisfaction scores at 6 months after varicocelectomy were significantly higher as compared to initial

preoperative evaluations (3.56 ± 0.58 and 1.03 ± 0.93 , respectively) [$P = 0.0001$, Table 2].

The mean testicular size significantly increased from 10.97 ± 2.23 to 13.80 ± 1.54 at 6 months after varicocelectomy ($P = 0.0001$). The mean serum testosterone significantly increased from 311.87 ± 23.84 to 34.48 ± 22.4 at 6 months after varicocelectomy [$P = 0.0001$, Table 2].

In addition, this study found that there was an overall improvement in the semen parameters of the patients at 6 months postoperative in ($n = 40$) 50% of the patients with abnormal semen parameters. The scrotal pain was improved in ($n = 3$) 60% of the patients with varicoceles and pain at 6 months postoperative.

DISCUSSION

There are many studies reported a high prevalence of PE in patients with varicoceles.^[12-14] Lotti *et al.* found an association between varicocele and PE in patients consulting for sexual dysfunction and the mechanisms linking varicocele with PE appear to be complex and difficult to explain.^[15] However, many studies speculated that varicocele, leading to intrapelvic congestion and prostatic inflammation, could be the primum movens for the onset of PE, at least in some patients. It has been reported that varicocele is associated with an underlying systemic venous abnormality and with an increased diameter of the prostatic venous plexus in particular.^[22-24]

Gat *et al.* demonstrated that the presence of a venous blood reflux from the high pressure testicular venous drainage system to the low-pressure prostatic drainage system through a direct communication represented by the deferential vein and the vesicular plexus. It was speculated that the presence of communication between the testicular and the prostatic venous system might justify a backflow of venous blood from the testis to the prostate, which can lead to intrapelvic venous congestion. This could facilitate the onset of symptoms of prostatitis.^[25]

Table 1: Comparisons of mean (\pm standard deviation) scores of the five-item questionnaire and total scores of premature ejaculation diagnostic tool at initial prevaricocelectomy evaluations and at 6 months postvaricocelectomy evaluations

Questions number	Questions	Prevaricocelectomy score	Postvaricocelectomy score	P
Q1	How difficult is it for you to delay ejaculation?	3.36 \pm 0.48	2.03 \pm 0.49	0.0001
Q2	Do you ejaculate before you want to?	3.34 \pm 0.47	1.95 \pm 0.48	0.0001
Q3	Do you ejaculate with very little stimulation?	3.40 \pm 0.49	1.96 \pm 0.42	0.0001
Q4	Do you feel frustrated because of ejaculating before you want to?	3.36 \pm 0.48	1.94 \pm 0.41	0.0001
Q5	How concerned are you that your time to ejaculation leaves your partner unfulfilled?	3.36 \pm 0.48	1.94 \pm 0.41	0.0001
Total score		16.81 \pm 2.29	9.84 \pm 2.01	0.0001

$P < 0.05$ was statistically significant

Table 2: Comparisons of mean (\pm standard deviation) of the intravaginal ejaculatory latency time/min, testicular size/cc, serum testosterone/ng/dL, and sexual satisfaction scores at initial prevaricocelectomy evaluations and at 6 months postvaricocelectomy evaluations

	Prevaricocelectomy	Postvaricocelectomy	P
IELT (min)	0.93 \pm 0.16	5.14 \pm 0.77	0.0001
Satisfaction scores	1.03 \pm 0.93	3.56 \pm 0.58	0.0001
Testicular size (cc)	10.97 \pm 2023	13.80 \pm 1.54	0.0001
Serum TT (ng/dL)	311.87 \pm 23.84	340.48 \pm 22.4	0.0001

P<0.05 was statistically significant. IELT: Intravaginal ejaculatory latency time, TT: Total testosterone

This study aimed to assess the role of varicocelectomy in the improvement of PE in patients with clinical varicoceles and PE.

The mean scores of the five questions of the PEDT measuring ejaculation control, frequency of inability of ejaculation control, ejaculation with minimal stimulation, feel of distress, and interpersonal difficulty owing to PE had statistically significant improvements at 6 months after varicocelectomy evaluations. In addition, the mean of the total scores of PEDT at 6 months after varicocelectomy had statistically significant improvements. This finding concurred with that from the study of Ahmed *et al.*, who concluded that varicocelectomy was clearly related to improvement of PE and testicular hormonal function in varicocele patients.^[17] In addition, Asadpour *et al.* found that in a significant number of patients who had clinical varicoceles and not well responded to medical treatments for PE, varicocelectomy could effectively improve PE.^[16]

The present study reported that the mean IELTs per minutes at 6 months after varicocelectomy evaluations were significantly higher as compared to initial preoperative evaluations. The mean values for the overall sexual satisfaction scores at 6 months after varicocelectomy were significantly higher as compared to initial preoperative evaluations.

The present study found that there was a significant increase in testicular size and correlated with a significant increase in serum testosterone levels at 6 months after varicocelectomy. These results suggest that PE in the patient with clinical varicoceles was related to testicular hormonal dysfunction. These significant increases in serum testosterone levels within normal range may associate with improvement in overall sexual functions including ejaculatory control reflex. However, Corona *et al.*^[26] reported that abnormal high levels of testosterone may associate with PE.

The present study showed that varicocelectomy could be an effective line of treatment for PE in patients with clinical varicoceles and PE because it improved PEDT, ILET, and overall sexual satisfaction scores. This improvement may relate to the significant increase in serum testosterone levels at 6 months after varicocelectomy.

CONCLUSION

Finally, this study concluded that varicocelectomy could improve PE in patients with clinical varicoceles and PE. Further prospective, controlled studies are needed to provide further characterization of this potential relationship.

Acknowledgment

We are grateful to all the faculty and postgraduates in our scientific departments for their invaluable help in conducting this study.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Porst H, Montorsi F, Rosen RC, Gaynor L, Grupe S, Alexander J. The premature ejaculation prevalence and attitudes (PEPA) survey: Prevalence, comorbidities, and professional help-seeking. *Eur Urol* 2007;51:816-23.
2. Patrick DL, Althof SE, Pryor JL, Rosen R, Rowland DL, Ho KF, *et al.* Premature ejaculation: An observational study of men and their partners. *J Sex Med* 2005;2:358-67.
3. Rowland DL, Patrick DL, Rothman M, Gagnon DD. The psychological burden of premature ejaculation. *J Urol* 2007;177:1065-70.
4. Waldinger MD. Recent advances in the classification, neurobiology and treatment of premature ejaculation. *Adv Psychosom Med* 2008;29:50-69.
5. Williams W. Secondary premature ejaculation. *Aust N Z J Psychiatry* 1984;18:333-40.
6. Donatucci CF. Etiology of ejaculation and pathophysiology of premature ejaculation. *J Sex Med* 2006;3 Suppl 4:303-8.
7. Lue T, Broderick G. Evaluation and nonsurgical management of erectile dysfunction and premature ejaculation. In: Walsh PC, Retik AB, Vaughan ED, Wein AJ, Kavoussi LR, Novick AC, *et al.*, editors. *Campbell-Walsh Urology*. 9th ed., Vol. 1. Philadelphia, PA: Saunders, Elsevier; 2007; 750-87.
8. Screponi E, Carosa E, Di Stasi SM, Pepe M, Carruba G, Jannini EA. Prevalence of chronic prostatitis in men with premature ejaculation. *Urology* 2001;58:198-202.
9. Jarow JP, Coburn M, Sigman M. Incidence of varicoceles in men with primary and secondary infertility. *Urology* 1996;47:73-6.
10. Sayfan J, Soffer Y, Orda R. Varicocele treatment: Prospective randomized trial of 3 methods. *J Urol* 1992;148:1447-9.
11. Khera M, Lipshultz LI. Evolving approach to the varicocele. *Urol Clin North Am* 2008;35:183-9, viii.

12. Comhaire F, Vermeulen A. Plasma testosterone in patients with varicocele and sexual inadequacy. *J Clin Endocrinol Metab* 1975;40:824-9.
13. Younes AK. Low plasma testosterone in varicocele patients with impotence and male infertility. *Arch Androl* 2000;45:187-95.
14. Ketabchi AA. Premature ejaculation in varicocele patients. *Shiraz E Med J* 2008;9:30-4.
15. Lotti F, Corona G, Mancini M, Biagini C, Colpi GM, Innocenti SD, *et al*. The association between varicocele, premature ejaculation and prostatitis symptoms: Possible mechanisms. *J Sex Med* 2009;6:2878-87.
16. Asadpour AA, Aslezare M, Nazari Adkani L, Armin M, Vojdani M. The effects of varicolectomy on the patients with premature ejaculation. *Nephrourol Mon* 2014;6:e15991.
17. Ahmed AF, Abdel-Aziz AS, Maarouf AM, Ali M, Emara AA, Gomaa A. Impact of varicolectomy on premature ejaculation in varicocele patients. *Andrologia* 2015;47:276-81.
18. Althof SE, McMahon CG, Waldinger MD, Serefoglu EC, Shindel AW, Adaikan PG, *et al*. An Update of the International Society of Sexual Medicine's guidelines for the diagnosis and treatment of premature ejaculation (PE). *Sex Med* 2014;2:60-90.
19. Rosen RC, Cappelleri JC, Smith MD, Lipsky J, Peña BM. Development and evaluation of an abridged, 5-item version of the International Index of Erectile Function (IIEF-5) as a diagnostic tool for erectile dysfunction. *Int J Impot Res* 1999;11:319-26.
20. Symonds T, Perelman MA, Althof S, Giuliano F, Martin M, May K, *et al*. Development and validation of a premature ejaculation diagnostic tool. *Eur Urol* 2007;52:565-73.
21. Kim SW, Paick JS. Short-term analysis of the effects of as needed use of sertraline at 5 PM for the treatment of premature ejaculation. *Urology* 1999;54:544-7.
22. Pavone C, Caldarera E, Liberti P, Miceli V, Di Trapani D, Serretta V, *et al*. Correlation between chronic prostatitis syndrome and pelvic venous disease: A survey of 2,554 urologic outpatients. *Eur Urol* 2000;37:400-3.
23. Canales BK, Zapzalka DM, Ercole CJ, Carey P, Haus E, Aeppli D, *et al*. Prevalence and effect of varicoceles in an elderly population. *Urology* 2005;66:627-31.
24. Sakamoto H, Ogawa Y. Is varicocele associated with underlying venous abnormalities? Varicocele and the prostatic venous plexus. *J Urol* 2008;180:1427-31.
25. Gat Y, Gornish M, Heiblum M, Joshua S. Reversal of benign prostate hyperplasia by selective occlusion of impaired venous drainage in the male reproductive system: Novel mechanism, new treatment. *Andrologia* 2008;40:273-81.
26. Corona G, Jannini EA, Vignozzi L, Rastrelli G, Maggi M. The hormonal control of ejaculation. *Nat Rev Urol* 2012;9:508-19.

