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Original research

EVALUATION OF COMPLICATIONS AND SEQUELAE AFTER SURGICAL TREATMENT OF FEMALE PELVIC ORGAN PROLAPSE WITH SYNTHETIC GRAFT PLACEMENT

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ABSTRACT

Introduction: *Pelvic organ prolapse is a common condition in Vietnam. At An Giang obstetrics and pediatrics hospital, vaginal mesh surgery for the treatment of female pelvic organ prolapse has recently been introduced, which is a new technique for the hospital and requires evaluation and research. This study evaluates the treatment results of female pelvic organ prolapse by surgical placement of a synthetic vaginal mesh at An Giang obstetrics and pediatrics hospital in 2020-2021.*

Methods: *Cross-sectional descriptive and prospective study. All women diagnosed with pelvic organ prolapse stage II or higher according to POP-Q criteria underwent vaginal mesh placement surgery.*

Results: *The study results of 47 cases of pelvic fractures. There was 1 case of bladder perforation, accounting for 2%, and 2 cases of intraoperative bleeding, accounting for 4.3%. After surgery, no complications were detected for 1 month. After 3 months, there were 2 cases of graft exposure during re-examination due to painful intercourse, accounting for a rate of 4.3%. No complications were recorded after 6 months, and 2 cases of graft exposure during re-examination after surgery 3 months ago have been successfully treated. 87.2% of patients resumed sexual activity at this stage and no complications were reported. 98% of patients expressed satisfaction with this surgical method and are excited to confidently recommend this surgical method to other women. 2% are concerned about the cost of the mesh.*

Conclusion: *The effectiveness of the surgical method of placing a synthetic vaginal graft for the treatment of female pelvic organ prolapse achieves a success rate of 95.7%. 98% of patients express satisfaction with this surgical method and are enthusiastic about recommending this surgical method to other women.*

Keywords: *Pelvic organ prolapse, vaginal graft placement, complication.*

I. INTRODUCTION

Pelvic organ prolapse is the descent of the uterus, bladder, rectum, anterior vaginal wall, posterior vaginal wall... from their normal anatomical positions, due to damage and weakening of the pelvic floor muscles and supporting ligaments [1]. This is a disease that does not pose a danger to the lives of women, but it greatly affects their daily activities, work, as well as their mental health... in general, it significantly impacts the quality of life of women [2]. Pelvic organ prolapse is a fairly common disease in Vietnam. According to statistics from the Central obstetrics and pediatrics hospital, the incidence of this disease in women of reproductive age is about 20%, and nearly 80% in women aged 40-50 [3]. Treatment of pelvic organ prolapse in women depends on the severity of the condition. Mild cases can be managed with conservative measures such as pelvic floor muscle training, pessary support, or hormone replacement therapy [3, 4]. In the past, surgical treatment for stage II - III pelvic organ prolapse mainly involved hysterectomy, cervicectomy, and

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vaginal reconstruction procedures (Crossen surgery, Manchester surgery...). However, if only the cervix is cut, it will impair the pelvic support system and lead to posterior prolapse, studies show that about 40% have posterior prolapse after hysterectomy [5]. In Vietnam, mesh placement surgery in the vaginal or abdominal route using laparoscopy to lift the pelvic floor in female pelvic organ prolapse is performed at Tu Du Hospital since July 2009 and Hue Central Hospital since April 2009. At An Giang obstetrics and pediatrics hospital, the surgery of mesh placement in the vaginal route to treat female pelvic organ prolapse is being implemented, this is a new technique for An Giang obstetrics and pediatrics hospital.

II. MATERIALS AND METHODS

All women diagnosed with stage II or higher pelvic organ prolapse according to the POP-Q classification, who came for examination and treatment at An Giang obstetrics and pediatrics hospital from January 2020 to October 2021.

Sample selection criteria were: (1) All women diagnosed with stage II or higher pelvic organ prolapse according to the POP-Q system with an indication for vaginal mesh placement surgery. (2) Stage II or higher pelvic organ prolapse without contraindications for mesh placement. (3) Patients requesting mesh placement surgery after being fully evaluated and counseled on all treatment options. (4) Patients consenting to participate in the study.

Exclusion criteria were: Stage I hemorrhoids or below. Contraindication to mesh placement.

Data entry and management were conducted using Microsoft Office 365. Statistical algorithms were processed using SPSS software version 26.0. Calculating the frequency and percentage for categorical variables. Statistical significance was considered when $p < 0.05$.

III. RESULTS

Table 1: Distribution of complications in surgery

Characteristics	Sequelae, complications	Quantity (n=47)	Ratio (%)
Surgical sequelae	Bladder injury	1	2.1%
	Rectum injury	0	0%
	Vaginal bleeding	2	4.25%
	Blood in the vagina, the perineum	0	0%

There is 1 case of bladder perforation during surgery, accounting for 2.1%, and 2 cases of vaginal bleeding, accounting for 4.25%. There are no cases of rectal perforation and hematoma.

Table 2: Distribution of complications in the postoperative period

Characteristics	Sequelae, complications	Quantity (n=47)	Ratio (%)
Postoperative complications	Small residuals	0	0%
	Vaginal infection	0	0%
	Piece of the puzzle	0	0%
	Worn out	0	0%

No postoperative complications were detected after surgery.

Table 3: Distribution of postoperative complications after 1 month

Characteristics	Sequelae, complications	Quantity (n=47)	Ratio (%)
Postoperative complications after 1 month	Small residuals	0	0%
	Vaginal infection	0	0%
	Piece of the puzzle	0	0%
	Worn out	0	0%
Total		47	0,0%

Table 4: Distribution of postoperative complications after 3 months

Characteristics		Quantity (n=47)	Ratio (%)
No complications		45	95.75%
Symptoms of lower urinary tract dysfunction		0	0%
Symptoms of lower gastrointestinal disorders		0	0%
Piece of the puzzle		2	4.3%
Worn out		0	0%
Symptoms during intercourse	Conjugation hurts	2	4.3%
	No abnormalities	9	19.1%
Not yet copulated		36	76.6%
The patient's perception of the surgical method	Very satisfied	35	74.5%
	Satisfied	9	19%
	Normal	1	2.1%
	Not satisfied	2	4.3%
	Different	0	0%

Among 47 patients who underwent surgery to place a graft, after 6 months, there were no 2 patients with exposed grafts after surgery, accounting for 4.3%, and these 2 patients experienced pain during intercourse. 93.5% of patients are satisfied with the surgical method when asked, and 4.3% are dissatisfied with this surgery, 2.1% feel normal.

Table 5: Distribution of postoperative complications after 6 months

Characteristics	Quantity (n=47)	Ratio (%)
No complications	47	100%
Symptoms of lower urinary tract dysfunction	0	0%
Symptoms of lower gastrointestinal disorders	0	0%
Piece of the puzzle	0	0%
Worn out	0	0%

Characteristics		Quantity (n=47)	Ratio (%)
Symptoms during intercourse	Conjugation hurts	0	0%
	No abnormalities	41	87%
Not yet copulated		6	13%
The patient's perception of the surgical procedure	Very satisfied	38	81%
	Satisfied	9	19%
	Normal	0	0%
	Not satisfied	1	2,1%
	Different	0	0%

After 6 months post-operation without detecting complications, there were 41 cases that resumed sexual intercourse after surgery and no abnormalities were observed during intercourse. 98% of patients expressed satisfaction with this surgical method, while 2% were dissatisfied.

IV. DISCUSSION

4.1. Surgical transformation

Surgical complications can occur with any surgery, depending on many factors such as the experience of the surgeon, the severity of the illness, anesthesia, supportive equipment, the patient's physical condition, accompanying diseases...[6] Common complications in reproductive surgeries include bleeding and organ damage. In our study, during surgery, all patients are catheterized, causing the bladder to collapse, reducing the risk of bladder perforation due to needle puncture. In addition, the color of the urine after surgery also helps detect early bladder injuries. However, there is 1 case where the needle punctures the bladder, accounting for 2.1% of surgical cases, we have discussed this issue and gained profound experience about this complication, then proposed a method to limit this complication by using hand in the vagina to control the needle's entry and exit very well throughout the surgical process. All patients undergoing posterior graft placement surgery are examined rectally before the operation ends, because the location of the posterior graft placement is close to the rectum and vagina, separating the posterior mucosa can cause rectal tears, and when inserting a needle to pull the graft, it can puncture the rectum. In 47 surgical cases, the research team did not detect any injuries to the rectum during the operation. The study by author Nguyen Ba My Nhi (2011) did not have any cases of injuries to the intestines, bladder, and rectum when placing a simple vaginal graft [7]. There are 2 cases of difficult-to-control vaginal bleeding detected immediately during surgery, accounting for 4.25%, encountered in more than 2 patients with hypertension, using continuous calcium channel blockers and aspirin and clopidogrel for coronary artery disease, and stopping aspirin only 5 days before surgery and stopping clopidogrel only 3 days before surgery. We have addressed this issue by stopping aspirin for at least 7 days and clopidogrel for at least 5 days before surgery, and preparing the blood coagulation machine very well, and when the vaginal wall is exposed, pay attention to controlling bleeding very well before proceeding with the next surgery. Other studies had similar rate of complications [8, 9].

4.2. Complications in the postoperative period

In our study, no postoperative complications such as bleeding, postoperative hematoma, or bladder - rectum injury were detected during the surgical procedure as well as in the postoperative period. The important index to evaluate the effectiveness of vaginal mesh surgery for treating female POP is postoperative urinary retention, examination and measurement did not detect any cases. Before surgery, there were 16 cases of urinary retention, so mesh placement surgery has improved this symptom well.

The hospital stay < 7 days accounts for the highest proportion at 83.0%, while the hospital

stay > 7 days accounts for 17.0%. The average hospital stay is 6.1 days. The hospital stay is one of the factors evaluating the effectiveness of surgery, shortening the hospital stay will reduce the costs that patients have to bear.

4.3. Complications after discharge from hospital

Patients who receive grafts are scheduled for follow-up appointments after 1 month - 3 months - 6 months of surgery or whenever there are unusual symptoms to detect complications early such as graft exposure, painful intercourse or excessive pelvic pain, as well as to detect recurrent pelvic organ prolapse after surgery.

After surgery in the first month, complications are not yet recorded, most patients are not willing to have intercourse at this stage. Complications of urinary and digestive disorders also do not occur.

After surgery 3 months, there are 2 cases of exposed fragments accounting for 4.25%, at the same time this complication is also a common complication encountered in 2 patients with thin, fragile, and less elastic vaginal mucosa, aged 57 and 60, prone to tearing during separation. In this period, there were 11 patients with adhesions after surgery and 2 patients experienced pain during intercourse due to graft exposure. The results of this study are nearly equivalent to the study by Nguyễn Bá Mỹ Nhi (2011) with 4 out of 111 cases having graft exposure in the anterior vaginal wall, accounting for a rate of 3.03% [7]. We treat by continuously applying estrogen cream to the vagina, avoiding intercourse during treatment, maintaining good vaginal hygiene throughout the treatment process, and scheduling follow-up appointments every month until 6 months after surgery to improve this condition. To minimize complications, we carefully evaluate the thickness of the vaginal mucosa before deciding on surgery, especially in thin patients. After surgery, 95.7% of patients are satisfied with the surgical method, 4.3% are dissatisfied due to complications such as exposed grafts and painful intercourse.

After surgery 6 months, no postoperative complications were detected at the 6-month follow-up. Two patients who had graft exposure at 3 months postoperatively were successfully treated. At this stage, 41 patients had resumed sexual intercourse after surgery with no abnormalities noted, while 6 patients were still hesitant to resume sexual activity.

V. CONCLUSION

In this study, the effectiveness of the surgical method of placing a synthetic vaginal graft to treat female pelvic organ prolapse achieved a success rate of 95.7%. 98% of patients expressed satisfaction with this surgical method and were enthusiastic about recommending it to other women.

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