



ARAŞTIRMA

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Polypropylene Mesh Results in Cystocele and Stress Incontinence

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Objective: The aim of this study was to assess the use of polypropylene mesh for treatment of cystocele and stress urinary incontinence.

Material and Methods: The study group included 26 cases who have cystocele and stress urinary incontinence. Patients with stage 2 or more cystocele, classified according to International Continence Society (ICS) classification, were included into this study. Routine tests and urodynamic studies performed for all cases. Miduretra and bladder support was provided by 4-arm polypropylene mesh in all cases. The follow-up period was 1 year for post-operative complications and ICIQ-SF scores were recorded at one month.

Results: The mean age of the 26 cases were 52.3±11 and postoperative mean follow up was 13.1±8.7 months. There were no cystocele recurrence and stress urinary incontinence symptoms at the postoperative period. The success rate was considered 100% for this surgery. Vaginal erosion was detected in three cases (11.5%). Two cases (7.7%) complained of dyspareunia. Thigh pain occurred in two cases, one patient had infection at trocar insertion point in the genitofemoral fold and sinus formation occurred in one patient. ICIQ-SF scores significantly decreased from 14.9 ± 2.4 to 5.2 ± 4.7 at postoperative first month (p < 0,01) .

Conclusion: The usage of only one polypropylene mesh for the support of bladder and midurethra in cases with cystocele and stress urinary incontinence may be accepted as a successful and effective method with low morbidity and well tolerability.

Key Words: Puberty, fat diet, leptin, light stimulus.

Sistosel ve Stres İnkontinansda Polypropylene Mesh Sonuçları

Amaç: Sistosel ve stres inkontinans saptanan olgularda kullanılan polypropylene mesh sonuçlarının değerlendirilmesi.

Gereç ve Yöntem: Çalışma grubunu sistosel ile birlikte stres inkontinans saptanan 26 olgu oluşturdu. International Continence Society (ICS) sınıflamasına göre sistoselleri evre 2 veya daha fazla idi. Tüm olgulara rutin testler ile birlikte ürodinamik incelemeler yapıldı. Tüm olgularda 4 kollu polypropylene mesh ile midüretra ve mesane desteği sağlandı. Postoperatif 1. ayda ICIQ-SF doldurtuldu. Hastalar postoperatif komplikasyonlar açısından 1 yıl takip edildi.

Bulgular: Yirmi altı olgunun yaş ortalaması 52.3±11, postoperatif ortalama takip süresi 13.1±8.7 ay idi. Postoperatif sistosel rekürrensi veya stres inkontinans semptomları izlenmedi. Post operatif başarı oranı %100 olarak kabul edildi. Üç olguda (%11.5) vaginal erozyon, iki olguda (%7.7) dispareuni, iki olguda uyluk ağrısı ve bir olguda genitofemoral alandaki giriş yerinde enfeksiyon ve sinus formasyonu izlendi. ICIQ-SF skorları 14.9±2.4'den postoperatif 1. ayda 5.2±4.7'ye düştü (p< 0.01).

Sonuç: Sistosel ve stres inkontinanslı olgularda tek bir polypropylene mesh ile mesane ve midüretra takviyesi başarılı, etkili, düşük morbiditeli ve iyi tolere edilen bir yöntem olarak kabul edilebilir.

Anahtar Kelimeler: Polypropylene dörtkollu mesh, sistosel, stres inkontinans.

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Introduction

Classical Anterior colporrhaphy operation which is used for cystocele is associated with an unacceptably high recurrence rate. Paravaginal repairs are technically more difficult to perform and may be associated with more complications. Because of these reasons mesh use has become more prevalent for anterior vaginal operations (1).

In recent years, transobturator techniques which are accepted as less invasive operations, substitute for invasive- Tension-free vaginal tape (TVT) operations. In this study, we presented four arm polypropylene mesh operation results that is used to support bladder and midurethral defects in patients suffering from grade-II or more cystocele and stress urinary incontinence.

Material and Methods

The study group included 26 cases who have grade-II or more cystocele with stress urinary incontinence. Patients having cystocele with stage 2 or more according to International Continence Society (ICS) classification, were included in the study group (2). All patients underwent a complete urologic, gynecologic and urodynamic work-up before the surgical treatment. Patients with complaints of stress incontinence or mixed incontinence were included into the study group. Furthermore patients having first degree uterine prolapsus and/or rectocele were also included. Patients with urge incontinence or mixed incontinence having urge symptoms were excluded.

Four arm polypropylene macropore mesh (Nasca, Promedon, Arjantina) has been used for all cases. Vaginal mucosa peel off from bladder by median incision that began just beneath 1.5 cm from the urethra. Outside-in transobturator procedure were used for lateral arms to pass the fascia. Fore arms of the mesh were passed subcutaneously through lateral sides of the urethra and they were hooked to suprapubic region. Bladder and midurethra were reinforced by the mesh. Finally one part of vaginal mucosa were cauterized and sutured via the double-breasted technic.

During the surgery antibiotic prophylaxis was administered via single 1g intravenous dose of cefazolin. Patients were discharged at postoperative day one after removal of the urinary catheter and observing no residual urine within the bladder. Followup visits were performed at 1, 3 and 6 months postoperatively.

Operation was accepted as successful when there were no cystocele or only stage 1 cystocele. Improvement was defined as a significant reduction in urine leakage, such that it did not require further treatment. ICIQ-SF filled by the patients were compared preoperatively and at postoperative first month.

Statistical analysis

Results are expressed as mean±SD. Pre- and post-treatment values of the parameters were compared with a paired sample t-test. The relationships between different variables were analysed with Pearson correlation test. The statistical analysis was carried out by using Statistical Package for the Social Sciences (SPSS), version 11.0 (SPSS, Chicago, IL). A p-value of 0.05 was considered to be statistically significant.

Results

Twenty-six patients completed the study protocol. The follow-up period was 1 year for post-operative complications and ICIQ-SF scores were recorded at one month. The study was approved by the local ethics committee. Mean age was $52,3 \pm 11,0$ years (range, 36-71 years). Mean follow-up period was $13,1 \pm 8,7$ months (range 1-29 month). Preoperative mean ICIQ-SF scores

were $14,9 \pm 2,4$ at postoperative period mean score $5,2 \pm 4,7$ significantly decreased ($p < 0,01$).

We used four arm polypropylene monofilament macroporous mesh for supporting the bladder and midurethra in all patients. At the same time 3 patients had rectosel so posterior colpoproctopexy procedure were added. Bladder, urethra or vascular complications didn't occur. In our study, the surgical cure rate was found 100% for cyctocele repair and for stres urinary incontinence.

Vulvar ecchymosis was encountered in a patient at post operative period. We found regional ache at point of mesh arm entry in two patients. Two other patients had dysparaunia and mesh tension at vaginal sulcus. During the postoperative follow-up period three patients had erosion at the level of midurethral incision (11,5%). We resected mesh partially and the redundant mucosa was excised then the mucosa re- sutured. Infection and sinus formation was detected at genitofemoral fold trocar insertion point in one patient, (Table 1). In this case local excision was performed and medication was administered.

Table 1. Postoperative complication in 26 patients.

Complication	Number	%
Organ injury	-	-
Transfusion	-	-
Vaginal erosion	3	11.5
Dysparaunia	2	7.7
Thigh ache	2	7.7
Infection and sinus formation	1	3.8

Discussion

Vaginal anterior repairing and Kelly plication is the classical procedure for treatment of cystocele (3). Central defects are generally repaired via fasial plication. In addition to these operations, paravaginal reinforcement and Burch colposuspension can be used (4). However, this procedure needs laparotomy which extends hospitalization during this operation. Vaginal operations are preferred because of short hospitalization period and with minimal morbidity (5).

Severe cystocele repair should include correction of bladder herniation and without obstruction and retention. Tension-free mesh is placed under the bladder wall and resistance to intrabdominal pressure is increased at the same time with permanent reinforcement of bladder basement,neck and side walls (6).

We didn't detect any recurrence of symptomatic cystocele or stage 1 cystocele after operation in our 26 patients with stage 2 or more cystocele. ICIQ-SF scores significantly decreased in the postoperative period ($14,9 \pm 2,4$ versus $5,2 \pm 4,7$) in our study group ($p < 0,01$). Flood et al. (7) assessed the use of Marlex mesh in conjunction with anterior colporrhaphy for the correction of cystocele with or without urinary stress incontinence in 142 patients. Their mean follow-up time was 3.2 years.

No patients experienced recurrent anterior vaginal wall prolapse but three of their patients (2.1%) developed mesh erosions in the vagina. There was a 74% success rate in the treatment of urinary stress incontinence. In our study we had also three patients with vaginal erosions (11.5%). Since, initially we had no enough experience with this technique in our hospital, a relatively high complication rate appeared in our study.

Yan et al. (8) studied cystocele repair by the placement of a synthetic subvesical mesh secured anteriorly through the obturator foramen in 30 patients. They only found failure in a young patient (3%) after a mean follow-up of 6.7 months. Two vaginal erosions (7%) were observed at six and nine months postoperatively. Two cases (14%) complained of anterior dyspareunia.

Granese et al. (9), repaired moderate or severe cystocele with Y-shaped mesh placed on the perivesical fascia. After a follow-up of 24 months, 19 patients (11%) reported recurrent cystocele, 9 patients (5.1%) had a vaginal wall erosion after 6 month follow up and 2 patients (1%) complained of persistent dyspareunia. Palanca et al. (10), used polypropylene mesh for the

treatment of cystocele in 31 cases whose mean age was 62.3 year. They found no patient with prolapse recurrence.

Park et al. (11) reported success rate of cystocele repair as 90% and stress incontinence was cured in all patients (100%). The postoperative complication was transient voiding difficulty in 2 cases after mean follow up 7.1 month in.

The use of mesh in operations isn't always safe. Cicatrix formation and erosion rate was reported to be 6% in some series (12, 13). Infection, pain, seroma, fistula and sinus formation were reported to be other complications in mesh operations. Type 1 monofilament polypropylene macroporous mesh should be preferred because of low complication rates (13).

As a conclusion, the use of one piece of polypropylene mesh for the support of bladder and midurethra in cases with combined cystocele and stress urinary incontinence may be accepted as a successful, effective method of treatment with low morbidity and well tolerability.

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