

Which One is the Appropriate Approach for Uterine Prolapse: Manchester Procedure or Vaginal Hysterectomy?

Uterin Prolapsus Tedavisinde Hangisi En Uygun Tedavi Yöntemidir: Manchester Prosedürü veya Vajinal Histerektomi?

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ABSTRACT Objective: To compare the 5-year results of the efficacy of vaginal hysterectomy against Manchester procedure for uterine prolapse. **Material and Methods:** This study was carried on women with the complaints of uterine prolapse. The patients were randomized into 2 groups using a computer program, and underwent either Manchester procedure (Group 1) or vaginal hysterectomy (Group 2). Both groups were compared in terms of durations of the operations, the length of hospital stay, quality of life (QoL) scores and the recurrences (C point and total vaginal length) at 5 years after operations. **Results:** Manchester procedure was performed on 49 patients. Vaginal hysterectomy was performed on 45 patients. The mean duration of operation and the length of hospitalization for group 1 and group 2 were 62.4±10.5 minutes and 2.58±0.56 days, and 77.8±13.6 minutes and 2.88±0.63 days, respectively. There were statistically significant differences between groups in terms of the durations of operations (p=0.003) and the length of stay in hospital after the interventions (p=0.042). The postoperative mean of the C point level in group 1 and group 2 were -6.3±0.91 cm and -6±0.97 cm, respectively. There was no statistically significant difference between the groups (p=0.132). The postoperative mean of total vaginal length in groups 1 and 2 were 8.3±0.95 cm and 6.02±0.98 cm, respectively. There was a statistically significant difference between the groups (p=0.016). Postoperative QoL scores improved significantly after both procedures. **Conclusion:** The Manchester procedure is an efficient alternative of vaginal hysterectomy for the treatment of uterine prolapse

Key Words: Uterine prolapse; hysterectomy, vaginal

ÖZET Amaç: Uterin prolapsusun cerrahi tedavisinde vajinal histerektomi ile Manchester operasyonunun etkinliğini karşılaştırmak. **Gereç ve Yöntemler:** Uterin prolapsus şikayeti ile başvuran olgular çalışmaya dahil edildi. Çalışma grubu bilgisayar programına göre randomize edilerek 2 gruba ayrıldı. Manchester prosedürü uygulanan olgular Grup 1'i, vajinal histerektomi uygulanan olgular ise Grup 2'yi oluşturdu. Her iki grup, operasyon süreleri, hospitalizasyon süreleri, yaşam kalite skorları ve operasyondan 5 yıl sonraki rekürrensleri (C noktası ve total vajinal uzunluk) açısından karşılaştırıldı. **Bulgular:** Manchester prosedürü 49 hastaya uygulandı. Vajinal histerektomi 45 hastaya uygulandı. Grup 1'in ortalama operasyon süresi 62,4±10,5 dakika, hospitalizasyon süresi 2,58±0,56 gün iken, grup 2'de ortalama operasyon süresi 77,8±13,6 dakika, hospitalizasyon süresi 2,88±0,63 gün olarak bulundu. İki grup arasında operasyon (p=0,003) ve hospitalizasyon süreleri (p=0,042) açısından istatistiksel olarak anlamlı fark tespit edildi. Grup 1 ve grup 2'nin postoperatif ortalama C noktaları -6,3±0,91 cm ve -6,0±0,97 cm olarak ölçüldü. Ancak iki grup arasında istatistiksel olarak anlamlı fark bulunmadı (p=0,132). Grup 1 ve grup 2'nin postoperatif ortalama total vajinal uzunlukları 8,3±0,95 ve 6,02±0,98 cm idi ve gruplar arasında istatistiksel anlamlı fark tespit edildi (p=0,016). Her iki grupta yaşam kalite skorlarında belirgin iyileşme gözlemlendi. **Sonuç:** Manchester prosedürü, uterin prolapsusun cerrahi tedavisinde, vajinal histerektomiye alternatif, etkin bir tedavi yöntemidir.

Anahtar Kelimeler: Uterus prolapsusu; histerektomi, vajinal

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Uterine prolapse (UP) is a common health problem and a great concern for women. Vaginal hysterectomy has been the most common and traditional procedure for the treatment of UP. Uterine prolapse is the main indication of 15% of all hysterectomy operations in the United States, however, whether or not to preserve the prolapsed uterus is still a matter of debate.^{1,2} Hysterectomy has some complications that could devastate the life of patients, such as intraoperative bleeding, vaginal wall prolapse, pelvic floor deficiency, vaginal cuff abscesses and urinary incontinence.^{3,4} In 1990s, Petros and Ulmsten described the “Integral theory” which construed the pelvic anatomy in static, dynamic and functional integrity.⁵ Normal position and support of the bladder, rectum and uterus are provided by related bones, muscles and the connective tissues. Any malfunction within the system leads to pelvic floor dysfunction, hence, hysterectomy certainly has a negative effect on the integrity of the pelvic system.⁶

In 1888, the Manchester operation was described as a technique for the correction of uterine prolapse.⁷ This surgical technique combines anterior and posterior colporrhaphy with cervical amputation. Fothergill modified the technique as transvaginal cervical amputation, colporrhaphy, and fixation of the cervix to the cardinal ligaments.

In this study; we, mainly aimed to compare the efficiency of vaginal hysterectomy and Manchester procedure in a randomized controlled trial in terms of recurrence at 5 years after the operations.

MATERIAL AND METHODS

This study was carried between July 2002 and March 2006 in the Urogynecology Clinics of Ankara Etlik Zubeyde Hanim Women’s Health Teaching and Research Hospital. The study included the women who had uterine prolapse. The women who had urinary incontinence as well as uterine prolapse were excluded from the study. All patients gave their informed consents before the surgical procedures, and the Ethics Committee of the hospital approved the study.

All women underwent gynecological examination, preoperative cytology of cervix and ultrasound screening of the uterus and adnexa to exclude abnormalities. The patients were randomly allocated to the Manchester procedure (group 1) and vaginal hysterectomy (group 2) according to a computer program. None of the patients desired preservation of the uterus. The patients’ uterine prolapses were graded according to the pelvic organ prolapse quantification (POP-Q) system. Primary outcome of the study was to document the recurrences after the operations, therefore the ‘C’ point level and total vaginal length (TVL) were taken into consideration. If the C point was at -1 or higher than the hymenal ring, we regarded it as anatomical cure. Presence of a cystocele and rectocele were also noted. All patients were evaluated in terms of age, parity, body mass index (BMI), duration of operation, length of hospitalization and intraoperative or postoperative complications. In addition, they performed prolapse quality of life (QoL) questionnaire before the operation which had been validated for Turkish women.⁸

The study included 94 patients. Forty-nine women (52%) underwent Manchester procedure (group 1) and 45 women (48%) underwent vaginal hysterectomy (group 2).

Both surgical procedures were performed by the same surgical team (A.A.S., E.U., I.D.) as previously reported.⁹

All patients were invited to the follow-up visits at 6th weeks, 6th months and annually after the operations.

The C point level, TVL and QoL scores at 5th year follow up visits are the primary outcomes of this study.

The comparisons between groups were made by Mann-Whitney U test, Chi-Square test, independent t test and Wilcoxon test where appropriate, and $p < 0.05$ was considered significant.

RESULTS

Manchester procedure was performed on 49 patients (52%) and 45 patients (48%) underwent vagi-

nal hysterectomy. Mean parity, mean age and BMI for group 1 were 3.01 ± 1.05 , 50.04 ± 10.02 years (minimum 38-maximum 64) and 27 ± 4.2 kg/m², respectively. Mean parity, mean age and BMI for group 2 were 2.81 ± 1.07 , 52.07 ± 11.04 years (minimum 42-maximum 68) and 26 ± 4.6 kg/m², respectively. There were no statistically significant differences between the groups for parity, age or BMI ($p=0.127$, $p=0.084$, $p=0.57$, respectively).

The mean follow up period was 61 ± 3 months.

The mean duration of operation for the Manchester procedure was 62.4 ± 10.5 minutes (minimum 40-maximum 100 min) and the length of hospitalization after the Manchester procedure was 2.58 ± 0.56 days. The mean duration of operation for vaginal hysterectomy was 77.8 ± 13.6 minutes (minimum 40-maximum 110 min) and the length of hospitalization after vaginal hysterectomy was 2.88 ± 0.63 days. There were statistically significant differences between groups for the duration of operations ($p=0.003$) and the length of stay in hospital after the interventions ($p=0.042$) (Table 1).

No serious complications occurred intraoperatively. Nevertheless, de novo urgency was noted in 3 patients in the Manchester group and de novo stress urinary incontinence was documented in 4 patients in the vaginal hysterectomy group.

The preoperative mean of the C point level in group 1 and group 2 were 0.77 ± 0.75 and 1.31 ± 0.51 cm (the difference was not statistically significant, $p=0.062$), whereas the postoperative mean of the C point level in group 1 and group 2 were -6.3 ± 0.91 cm and -6 ± 0.97 cm (the difference was not statistically significant, $p=0.132$), respectively (Table 2).

The preoperative mean of TVL in the Manchester group and vaginal hysterectomy group were 8.33 ± 0.85 cm and 7.19 ± 0.53 cm ($p=0.074$), respectively. The postoperative mean of TVL in the Manchester and vaginal hysterectomy groups were 8.3 ± 0.95 cm and 6.02 ± 0.98 cm, respectively (the difference was statistically significant, $p=0.016$) (Table 2).

During the follow up period, 1 patient who have had Manchester procedure underwent vagi-

nal hysterectomy due to advanced-stage uterine prolapse. Vaginal vault prolapse was diagnosed in 3 patients after vaginal hysterectomy. One patient underwent sacrocolpopexy and 2 patients underwent posterior intravaginal slingoplasty for the treatment of vault prolapse.

Preoperative mean of prolapse QoL scores in the Manchester and vaginal hysterectomy groups were 40.11 ± 11.52 and 38.95 ± 10.48 , respectively ($p=0.671$). Postoperative QoL scores improved significantly in both groups. Postoperative mean QoL scores of Manchester and vaginal hysterectomy groups were 15.54 ± 9.99 and 16.17 ± 10.44 , respectively ($p=0.782$) (Table 3). The statistical difference between preoperative and postoperative QoL scores were significant within groups 1 and 2 (Table 3).

TABLE 1: Durations of the operations and hospitalization.

Operations	Duration of operation (min)	Length of hospitalization (days)
Manchester (n=49)	62.4 ± 10.5	2.58 ± 0.56
Vaginal hysterectomy (n=45)	77.8 ± 13.6	2.88 ± 0.63
p	0.003	0.042

$p<0.05$ = statistical significance.

TABLE 2: Preoperative and postoperative C point and TVL results.

POP-Q reference points	Manchester (n=49)	Vaginal hysterectomy (n=45)	p
C (preoperative)	0.77 ± 0.75	1.31 ± 0.51	0.062
TVL (preoperative)	8.33 ± 0.85	7.19 ± 0.53	0.074
C (postoperative)	-6.30 ± 0.91	-6 ± 0.97	0.132
TVL (postoperative)	8.30 ± 0.95	6.02 ± 0.98	0.016

TVL: Total vaginal length, $p<0.05$ = statistical significance.

TABLE 3: Preoperative and postoperative prolapse QoL scores.

QoL scores	Manchester (n=49)	Vaginal hysterectomy (n=45)	p
Preoperative	40.11 ± 11.52	38.95 ± 10.48	0.671
Postoperative	15.54 ± 9.99	16.17 ± 10.44	0.782
p	0.0018	0.0021	

QoL: Quality of life, $p<0.05$ = statistical significance.

DISCUSSION

A spectrum of treatment modalities extending from conservative to surgical approaches can be used for the treatment of uterine prolapse. Vaginal hysterectomy has been the preferred procedure for the treatment of uterine prolapse. Nonetheless, since the role of uterus in pelvic floor functions have increasingly becoming evident, the decision of hysterectomy should not be easily given. Hence, Manchester procedure can be an alternative treatment option for uterine prolapse.

In our study, the recurrence rate of uterine prolapse after Manchester operation was 2.04% (n=1) and vault prolapse rate after vaginal hysterectomy was 6.6% (n=3). These findings are well in accordance with the literature.^{10,11}

An important point that should be stressed is that the risk of cervical stenosis after Manchester procedure. This can lead to hematometra or can obscure the alarming symptoms of endometrial carcinoma.^{12,13} We did not observe any patients with these problems after 5 years follow-ups, however, we gave to patients a detailed explanation of the procedures that had been performed and pelvic ultrasonography was carried out annually in the postmenopausal group in order to measure the endometrial thickness.

Our study showed that Manchester procedure had better results on TVL compared to vaginal hysterectomy. This finding worths denoting. Transposing the cardinal ligaments on cervix might lead

to a strong suspension for apical vaginal wall. This procedure can strengthen De Lancey level I suspension.¹⁴ The current literature also documents that the apical support after the Manchester procedure is excellent and the necessity of recurrent surgery for apical prolapse is inconsiderable.^{11,12}

It is a well known fact that the uterus has a passive role in the uterine prolapse. Therefore, if hysterectomy is being performed this can disrupt the local nerve supply as well as fascial plane and will effect the anatomical relationships of the pelvic organs, however, a literature review concluded that a vaginal hysterectomy is unlikely to cause bowel or bladder dysfunction.¹⁵⁻¹⁷ We believe that the uterus should be preserved except in organic diseases (such as cancer).

de Boer et al. showed longer hospital stay in the cervical amputation group which is contradictory to our results in their study.¹⁸ Nevertheless, the authors accept that the result could be due to selection bias of patients.

Although this study is a prospective, randomized controlled trial; it has some limitations such as sample size, the operations had been carried out by three different surgeons and the tissue characteristics of all patients are not uniform. However, this study could contribute a lot to the current literature and debates on uterine preservation.

We conclude that, Manchester operation is a preferable procedure for treatment of uterine prolapse with a short duration of operation, a short length of hospitalization and a higher success rates.

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