A Single Center Experience on Reproductive Outcome Following Hysteroscopic Treatment of Patients with Septate Uterus

Septat Uteruslu Hastalarda Histeroskopik Tedavi Sonrasi Reproduktif Sonuçlar: Tek Merkez Deneyimi

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ABSTRACT

Objective: To determine the pregnancy rates after uterin septum resection, in an infertile women population.

Methods: We recruited 255 infertile women who have preoperative diagnosis of uterine septum and whom underwent hysteroscopic operation. We calculated the birth rates and the pregnancy rate between the primary and secondary infertile groups of women.

Results: The clinical pregnancy rate, the live birth rate, and the abortion rate were 35.4% (primer infertile [n=52, 35.6%], seconder infertile [n=31, 35.2%]), 30.7% (primer infertile [n=46, 31.5%], seconder infertile [n=26, 29.5%]) and 4.7% (primer infertile [n=6, 4.1%], seconder infertile [n=5, 5.6%]) respectively. Term birth rate and preterm birth rate were 22.6% and 8.1% respectively in all infertile patients.

Conclusion: The major finding of the current study is that septate uterus treatment improves obstetrical outcomes in infertile patients with an overall pregnancy rate of 35.4%.

Key Words: septate uterus; reproductive outcome; hysteroscopy

ÖZET

Amaç: Infertil populasyonda, histeroskopik uterin septum rezeksiyonu sonrasında gebelik oranlarının belirlenmesini hedefledik.

Yöntem: Uterin septum ön tanısal alan 255 infertil kadına operatif histeroskopi uygulandı. Primer ve sekonder infertil gruplarda doğum oranları/gebelik oranları hesaplandı.

Bulgular: Klinik gebelik oranları, canlı doğum oranları ve düşük oranları sırasıyla %35.4, %30.7 ve %4.7 olarak hesaplanmıştır. Miadında doğum oranları ve preterm doğum oranları ise sırasıyla %22.6 ve %8.1 olarak bulunmuştur.

Sonuç: Çalışmanın en önemlisi bulgusu; infertil hastalarda uterin septum tedavisi sonrası %35.4 lük gebelik oranı ile obstetrik sonuçları olumlu yönde etkisidir.

Anahtar Sözcükler: uterin septum; reproduktif sonuçlar; histeroskopi

Received: 01.15.2020 Accepted: 02.07.2020

Geliş Tarihi: 15.01.2020 Kabul Tarihi: 07.02.2020

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doi:http://dx.doi.org/10.12996/gmj.2020.140
INTRODUCTION

During the embryogenesis the failure of formation or failure of fusion of the paramesonephric ducts results with Mullerian duct anomalies. The incidence of congenital malformations in the general population and infertile population is 4.3% and 3.5%, respectively. Septate uterus is the most common type of structural uterine malformations that can be a reason of spontaneous abortion and infertility. The ratio of the congenital malformations incidence reaches high levels in this population who have habitual abortions (13%) (1-3). Depending on the extension of the defect, septate uterus can be partial or complete. There is a large series of reports in the literature that indicate a high rate (>60%) of spontaneous abortion leading by septat uterus (4-8). Hysteroscopic metroplasty is a safe and simple approach to perform for the resection of the septate uterus (9-15). The advantages of this procedure are short operation time, ability to see the uterine cavity, low morbidity rate, decreased hospitalization time and absence of pelvic adhesion formation (16). In the current study, we aimed to determine the reproductive outcomes after hysteroscopic resection of septate uterus in women with primary/secondary infertility.

METHODS

This retrospective study was conducted using data from the infertility department of our hospital. We recruited 255 infertile women who have preoperative diagnosis of uterine septum and whom underwent hysteroscopic operation. 234 of all being applied hysteroscopic septum resection between the years 2010-2015. It was detected by hysteroscopy that twenty-one of all have several uterine anomalies like unicornutut uterus, bicornuate uterus and, uterus didelphys. Data were obtained from patients’ charts, pathology records or from direct contact with the patients. The study was performed with the permission of the Training Plan and Coordination Board Committee.

All patients underwent a full diagnostic investigation for the etiology of infertility. The diagnostic procedure included physical examination, blood tests including hormonal, hematologic parameters, ultrasound, hysterosalpingography and finally a diagnostic hysteroscopy.

Table 1: Distribution of the diagnosis.

| Type of uterine anomaly      | Primer infertile | Secounder infertile |
|-----------------------------|------------------|--------------------|
| Incomplete septate uterus   | 118 (74.2%)      | 78 (81.3%)         |
| Complete septate uterus     | 28 (17.7%)       | 10 (10.4%)         |
| Unicornut uterus            | 12 (7.5%)        | 7 (7.3%)           |
| Bicornut uterus             | 1 (0.6%)         | 0                  |
| Uterus didelphys            | 0                | 1 (1%)             |
| Total                       | 159 (100%)       | 96 (100%)          |

Table 2: Reproductive results of septate uterus cases after hysteroscopic resection according to the groups.

|                      | Primer infertile (n=146) | Seconder infertile (n=88) | p-value |
|----------------------|--------------------------|---------------------------|---------|
| Age                  | 24.33±3.81               | 32.40±5.20                | <0.001  |
| Pregnancy rate       | 52 (35.6%)               | 31 (35.2%)                | 0.952   |
| Live birth rate      | 46 (31.5%)               | 26 (29.5%)                | 0.092   |
| Abortus rate         | 6 (4.1%)                 | 5 (5.6%)                  | 0.586   |
| Preterm birth rate   | 9 (6.1%)                 | 10 (11.3%)                | 0.084   |
| Term birth rate      | 37 (25.3%)               | 16 (19.3%)                | 0.084   |

DISCUSSION

In the current study, we aimed to determine the reproductive outcome of a largest number of infertile patients who underwent hysteroscopic septal resection. The pathway about the impact of the uterine septum on fertility and pregnancy outcome has not been clarified yet. Although hysteroscopic septum resection is standard being performed in women who desire fertility (18-20).
In a prospective controlled trial in 2009 [21], which contains forty-four women affected by septate uterus and otherwise unexplained infertility and 132 women with unexplained infertility, survival analysis showed that the probability of a pregnancy in the twelve-months follow up was significantly higher in patients who had undergone metroplasty (38.6% vs 20.4%, respectively).

According to our findings there was a significant correlation between age and type of infertility. But there were no other relationship with the reproductive parameters in these two infertility groups. On the other hand, the major finding of the current study is that septate uterus treatment improves obstetrical outcomes in infertile patients with an overall pregnancy rate of 35.6%.

Septate uterus is the most common type of Mullerian anomalies [2]. The efficacy of hysteroscopic resection of uterine septum in women with unexplained infertility remains controversial. This is because of the absence of large prospective randomized studies. Pabuccu et al. reported that the pregnancy rates after the hysteroscopic resection of patients whom had unexplained infertility and septate uterus, was 41% and the term birth rate was 29.5% [9].

Up to date, there were two systematic reviews and a meta-analysis [8,14,22] assessed the effect of septum resection on pregnancy and live birth rates in women with infertility, in women who have miscarried, in women who have experienced recurrent pregnancy loss, or all three, and estimated a pregnancy rate of 60–80% and a live birth rate of 45–54%. With the effect of septum resection on unexplained infertility, a higher pregnancy rate (38.6% versus 20.4%; P < 0.05) has also been observed in these women [7].

Similar to our study, Tehraninejad et al. reports in their retrospective analyse which contains 248 infertile patients that septum resection by hysteroscopy was followed by an obvious improvement in pregnancy outcome. After hysteroscopic treatment they found that the term delivery rate increased to 33.5%. The other similar point with our study was the wideness of the data [23].

On the other hand, in the light of 78 retrospective articles, Cochrane Database System reported that there is no evidence that hysteroscopic septum resection improves reproductive outcome in women with a septate uterus and outweighs the possible complications of the procedure [24]. But there are needs to randomized controlled trials which currently underway: TRUST (The Randomised Uterine Septum Transsection Trial) and “Pilot randomized controlled trials which currently underway: TRUST (The Randomised Uterine Septum Transsection Trial) and “Pilot randomized controlled trial of hysteroscopic septal resection” [17]. The primer endpoint of this trial is to assess whether hysteroscopic septum resection improves live birth rate. Results have been expected to be clarified the confusion about this topic.

Conflicts of interest

No conflict of interest was declared by the authors.

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