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Original Article

Investigation of Pregnancy Outcomes, Either Spontaneous or Through Assisted Reproductive Techniques, in Patients Undergoing Diagnostic Laparoscopy and/or Operative/Office Hysteroscopy

Asuman Doğan Bayrak,[1] İlyas Turan,[2] Hilmi Baha Oral[3]

[1]Department of Obstetrics and Gynecology, Isparta Martyr Yunus Emre State Hospital, Isparta, Türkiye
[2]Department of Gynecologic Oncology, Batman Training and Research Hospital, Batman, Türkiye
[3]Department of Obstetrics and Gynecology, Süleyman Demirel University Research and Training Hospital, Isparta, Türkiye

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Correspondence: İlyas Turan, Department of Gynecologic Oncology, Batman Training and Research Hospital, Batman, Türkiye
E-mail: ilyasturan04@gmail.com

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ABSTRACT

Objective: The aim of this study was to investigate the pregnancy outcomes, either spontaneous or through assisted reproductive techniques, in patients who underwent diagnostic laparoscopy and/or operative/office ysteroscopy due to primary or secondary infertility.

Methods: The study included 144 patients diagnosed with primary or secondary infertility at the University Hospital, Department of Obstetrics and Gynecology, between January 2021 and May 2024, who underwent diagnostic laparoscopy (L/S) and, according to indications, office/operat e hysteroscopy (H/S) for adhesiolysis, chromotubation, cystectomy, cyst aspiration, etc., and for uterine cavity control or septum resection. For exclusion of intrauterine pathology, uterine cavity control was performed using offic hysteroscopy, and findings were recorded. Surgical interventions were performed in patients with adhesions, endometriosis, ovarian cysts, or tubal pathology.

Results: 76 (52.7%) patients had primary and 68 (47.2%) secondary infertility. Cyst was seen in 25% and 26.5% of primary and secondary infertile patients, respectively; septum in 27% and 26.5%; adhesion in 35.5% and 38.2%; endometriosis in 10.5% and 7.4%; and bilateral/unilateral tubal passage was seen in 94.7% of primary infertile patients and 92.6% of secondary infertile patients. β-hCG was observed to be positive in 42 (55.3%) and 37 (54.4%) of primary and secondary infertile patients, respectively. Of the primary infertile group with positive β-hCG, 3 (7.1%) had IUI, 12 (28.6%) had IVF, and 27 (64.3%) had spontaneous pregnancy. In both groups, higher rates of spontaneous pregnancy and cesarean delivery were observed after the operation.

Conclusion: We believe that the surgical correction of commonly detected pelvic and uterine pathologies in patients undergoing simultaneous laparoscopic and hysteroscopic surgery for infertility has positively contributed to pregnancy outcomes.

INTRODUCTION

Primary infertility is the failure to conceive despite 12 months of regular unprotected sexual intercourse, while secondary infertility is the failure to conceive despite a previous pregnancy (such as ectopic pregnancy, abortion, preterm/term pregnancy) and despite 12 months of regular unprotected sexual intercourse. The probability of pregnancy occurring in each menstrual cycle is called fecundability. Under normal conditions, this rate is 20-25% for each menstrual cycle. At the end of a one-year period, this rate increases to 80-85% in couples with normal fertility. If fecundability has abnormal for a year, this indicates that the couple should be investigated for infertility.[1] In light of the data in the literature, it has been revealed that the rate of primary infertility is higher than secondary infertility (57.5% vs. 42.5%).[2] Each gynecological pathology should be investigated to determine the cause of infertility. The most common causes of female infertility include polycystic ovary syndrome, uterine malformations, endometrial polyps, endometriosis, uterine fib oids and premature ovarian failure.[3] In cases of treatment failure

or assisted reproductive techniques (ART) failure in an infertile couple, secondary invasive diagnostic methods such as hysteroscopy and laparoscopy are generally preferred. [4] After several unsuccessful ovulation induction attempts, diagnostic laparoscopy allows the visual detection and treatment of a significant portion of the pelvic pathology that may cause infertility.[5] In addition, it has been shown that laparoscopic bilateral salpingectomy increases implantation and pregnancy rates in women with bilateral hydrosalpinx seen ultrasonographically, before IVF cycles to be attempted.[6] Hysteroscopy, one of the secondary invasive diagnostic methods in the surgical evaluation of pathologies that may cause infertility, allows visualization of the endocervical canal, uterine cavity, and tubal openings. In addition, simultaneous laparoscopy enables the examination and treatment of tubes, adhesions, endometriosis and pathological cystic and mass lesions in the ovaries. [7] The frequency of laparoscopic findings in primary and secondary infertility is higher than hysteroscopic findings [8] The combined use of laparoscopy and hysteroscopy in patients presenting with infertility diagnosis reduces the risk of recurrent surgery in terms of infertility diagnosis and treatment and shortens the time required for pregnancy after the operation. In light of all these, our study aims to investigate the pregnancy outcomes of patients who underwent diagnostic laparoscopy and/or operative/offic hysteroscopy with a diagnosis of primary or secondary infertility between January 2021 and May 2024 in a tertiary health center.

MATERIALS AND METHODS

In this study, patients who applied to the tertiary center between January 2021 and May 2024 due to primary or secondary infertility and underwent a history, physical examination and ultrasonographic evaluation, followed by advanced laboratory tests and imaging methods, were subjected to combined operative procedures such as laparoscopy alone or combined office/operat e hysteroscopy, uterine septum surgeries, and chromotubation with a preliminary diagnosis of primary/secondary infertility. The infertility diagnosis of the patients was made as patients over the age of 35 without additional risk who could not conceive despite 6 months of regular sexual intercourse and patients under the age of 35 who could not conceive despite 1 year of regular sexual intercourse. A total of 186 patients were found who underwent surgery in our clinic. 144 patients who underwent these procedures were reached. Approval was received from our hospital's ethics committee for our retrospective study dated 01.08.2024. The study was conducted in accordance with the ethical standards set forth in the Declaration of Helsinki and prior to participation, informed consent was obtained from participants.

According to the evaluation results, patients with male infertility factors, any other medical or surgical disorders which precluded the use of hysterolaparoscopy as a diagnostic modality, history of significant illness affecting fertility, AMH <0.59, patients younger than 18 and older than 39 were excluded from the study. Patients aged 18-39 were included in the study. The patients' contact information was obtained from the hospital information system. The patients were informed by phone before being called to the hospital that there was no invasive procedure that could harm the patient and that no information that would harm the patient's rights would be shared. Questions were asked about the patients' preoperative age, gravida, parity, abortion, preterm birth, term birth, delivery method, number of living children, anti-müllerian hormone level, use of assisted reproductive techniques before the operation, presence of previous surgery and whether there was a positive β-hCG test after the surgical operation performed by us, whether pregnancy occurred spontaneously or using assisted reproductive techniques, methods of conception and whether they took a live baby home. Written consent forms were obtained from the patients before the operation. All patients included in the study were under general anesthesia and ventilation was provided with an endotracheal tube. Patients were stained with povidone iodine twice from bilateral areola level to perineum in dorsolitomy position. 16 French Foley catheter was inserted under sterile conditions. During hysteroscopy operation, 8 mm diameter resectoscope with 5 mm diameter 30 degree angle optic, monopolar coagulation electrode was used. During laparoscopy, 30° two dimensional 10 mm telescope with white LED light source was used. Abdominal entry was made with 1 10 mm and 2 5 mm trocars. A 3.5 mm trocar was placed from suprapubic region according to intraoperative adhesive conditions. Laparoscopy was used alone or combined laparoscopy and hysteroscopy according to preoperative indications of patients. Hysteroscopy was used in offic or operative form according to patient indication. During diagnostic hysteroscopy, saline was used as an expander solution, and during operative hysteroscopy, mannitol (resectol) infusion was used, while unipolar coagulation electrode was used. Intraoperative findings that were thought to be abnormal were noted. In combined procedures, uterine cavity was entered via cannula and methylene blue was administered to perform chromotubation to evaluate tubal patency, and findings were noted. Laparoscopic surgical intervention was performed in patients with adhesion, endometriosis, hydrosalpinx, ovarian cysts or tubal obstruction. Hysteroscopic excisional procedures were performed in patients with intrauterine septum, myoma, and polyp.

Statistical Analysis

Data were transferred to IBM SPSS.25 (IBM Inc., Chicago, IL, USA) program and evaluated with statistical analyses. Before proceeding with statistical analyses, checks were made regarding the absence of data entry errors and whether the parameters were within the expected range. Mean and standard deviation were given in descriptive statistics of continuous variables; number of patients and percentage values were given in definition of categorical vari-

ables. Chi-square test was used for comparisons between categorical variables. Kolmogrov Smirnov and Shapiro Wilk's normality tests were used to check whether continuous variables showed normal distribution; variance homogeneity was checked with Levene's test. In cases where normal distribution was not observed, Mann-Whitney U test was used to determine the diffe ence between the two groups. In all analyses, $p<0.05$ was accepted as the significance l vel.

Table 1. Number and percentage values of patient groups and pathologies included in the study

Patient group	n	%
Primer Infertility	76	52.8
Seconder Infertility	68	47.2
Ovarian Cyst		
+	37	25.7
-	107	74.3
Uterin Septum		
+	39	27.1
-	105	72.9
Adhesion		
+	53	36.8
-	91	63.2
Endometriosis		
+	13	9.1
-	131	90.9
Bilateral/Unilateral Tubal Patency		
+	135	93.7
-	9	6.3

Table 2. Evaluation of intraoperative pathologies in both infertility groups

	Patient group		
	Primer infertility	Seconder infertility	
Ovarian Cyst	n (%)		p
+	19 (25.0)	18 (26.5)	0.840
-	57 (75.0)	50 (73.5)	
Uterin Septum			
+	21 (27.6)	18 (26.5)	0.876
-	55 (72.4)	50 (73.5)	
Adhesion			
+	27 (35.5)	26 (38.2)	0.736
-	49 (64.5)	42 (61.8)	
Endometriosis			
+	8 (10.5)	5 (7.4)	0.507
-	68 (89.5)	63 (92.6)	
Tubal Patency			
+	72 (94.7)	63 (92.6)	0.605
-	4 (5.3)	5 (7.4)	

RESULTS

The youngest patient was 18 years old and the oldest was 39 years old, and the mean age of the patients was 28.31±5.37. The study was conducted on two patient groups. The first group was the primary infertile group, consisting of 76 (52.8%) patients, and the other was the secondary infertile group, consisting of 68 (47.2%) patients. Cyst was observed in 37 (25.7%) patients, septum in 39 (27.1%), adhesion in 53 (36.8%) and endometriosis in 13 (9%). Bilateral/unilateral tubal passage was observed in 135 (93.7%) patients. The mean AMH values were determined as 3.96±2.82 for both groups. It was observed that there was no statistically significant relationship between the intraoperatively detected pathologies of cyst, septum, adhesion, tubal passage status with both patient groups ($p>0.05$) (Table 1).

In the primary infertile group, cyst 25%, septum 27.6%, adhesion 35.5%, endometriosis 10.5%, and bilateral/unilateral tubal passage 94.7%. In the secondary infertile group, cysts were 26.5%, septum 26.5%, adhesions 38.2%, endometriosis 7.4%, and bilateral/unilateral tubal transition 92.6% (Table 2). There was no statistically significant relationship between both patient groups and postoperative β-hCG status ($p>0.05$) (Table 3).

The mean age and mean preoperative AMH value of patients in the primary infertility group was found to be statistically significant y lower than those in the secondary infertility group ($p<0.05$) (Table 4). In the primary infertility patient group who underwent surgery due to uterine

Table 3. Postoperative β-hCG negativity and positivity in infertility groups

	Primer infertility	Seconder infertility	
β-hCG	n (%)		p
-	34 (44.7)	31 (45.6)	0.918
+	42 (55.3)	37 (54.4)	

Table 4. Distribution of preoperative age and AMH values in infertility groups

	Primer infertility	Seconder infertility	
	Mean± SS		p
Age	27.04±4.83	29.72±5.63	0.005*
AMH	4.59±3.20	3.19±2.04	0.006*

*$p<0.05$; Chi-square test, Mann Whitney-U test.

Table 5. Comparison of β-hCG situations according to the results of intraoperative pathologies of patients who underwent surgery due to primary infertility

Primary infertility	β-hCG -	β-hCG +	
Ovarian Cyst	n (%)		p
+	11 (32.4)	8 (19.0)	0.183
-	23 (67.6)	34 (81.0)	
Uterin Septum			
+	4 (11.8)	17 (40.5)	0.004*
-	30 (88.2)	25 (59.5)	
Adhesion			
+	15 (44.1)	12 (28.6)	0.159
-	19 (55.9)	30 (71.4)	
Tubal Patency			
+	31 (91.2)	41 (97.6)	0.211
-	3 (8.8)	1 (2.4)	

*p<0.05; Chi-square test, Mann Whitney-U test.

Table 6. Comparison of β-hCG situations according to the results of intraoperative pathologies of patients who underwent surgery due to secondary infertility

Seconder Infertility	β-hCG -	β-hCG +	
Ovarian Cyst	n (%)		p
+	11 (35.5)	7 (18.9)	0.123
-	20 (64.5)	30 (81.1)	
Uterin Septum			
+	6 (19.4)	12 (32.4)	0.223
-	25 (80.6)	25 (67.6)	
Adhesion			
+	15 (48.4)	10 (27.0)	0.068
-	16 (51.6)	27 (73.0)	
Tubal Patency			
+	27 (87)	36 (97.3)	0.020*
-	4 (13)	1 (2.7)	

*p<0.05; Chi-square test, Mann Whitney-U test.

septum, β-hCG in postoperative follow-ups was negative in 11.8% and positive in 40.5% (p<0.05) (Table 5). In the patient group who underwent laparoscopic bilateral/unilateral tubal transition due to secondary infertility, 87% of them had negative β-hCG in their postoperative follow-up and 97.3% had positive β-hCG (p<0.05) (Table 6).

In the postoperative follow-up of patients who underwent surgery for secondary infertility, the mean age of patients with negative β-hCG was found to be statistically significantly higher than those with positive β-hCG (p<0.05). In the postoperative follow-up of patients who underwent surgery for secondary infertility, the mean preoperative AMH values of patients with negative β-hCG were found to be statistically significant y lower than those with positive β-hCG (p<0.05).

In the primary infertile group, 3 (7.1%) of 42 patients with β-hCG positive had IUI, 12 (28.6%) had IVF, and 27 (64.3%) had spontaneous pregnancy; in the secondary infertile group, 4 (10.8%) of 37 patients had IUI, 5 (13.5%) had IVF, and 28 (75.6%) had spontaneous pregnancy (Fig. 1). In the primary infertility group with β-hCG positive follow-up, 8 (19%) of 42 patients had spontaneous abortion, 23 (54.8%) had cesarean section, and 11 (26.2%) had normal spontaneous vaginal delivery. In the secondary infertility group, 8 (21.6%) of 37 patients had spontaneous abortion, 20 (54.1%) had cesarean section, and 9 (24.3%) had normal spontaneous vaginal delivery. Cesarean delivery rates were higher in both groups.

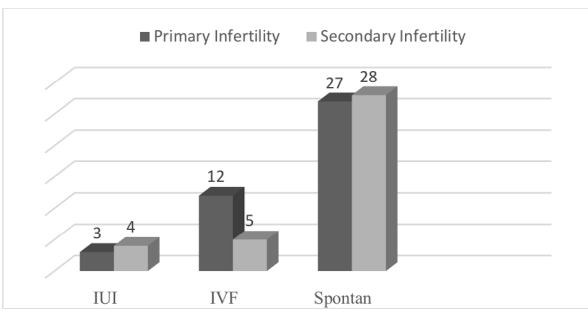

Figure 1. Postoperative pregnancy methods in both infertility groups.

DISCUSSION

In both groups, pregnancy rates after detection of tubal passage, separation of adhesions, evaluation of the uterine cavity and treatment of pathological conditions were similar, and the number of patients who conceived spontaneously after the operation was higher. As a result of applying L/S and H/S in the same session, the evaluation and treatment of many infertility factors, the expected time for pregnancy and, if necessary, the earlier application of ART were positively affec ed. In the study of Nayak et al.[9] including 300 patients who underwent combined laparoscopy and hysteroscopy with infertility diagnosis, 206 (69%) had primary infertility and the remaining 94 (31%) had secondary infertility. The patients in the secondary infertility group were slightly older compared to the primary group (28.8±3.7 years vs. 31.1±4.5 years). Laparoscopic abnormalities were observed more in the primary infertility group compared to hysteroscopy. (35% vs. 17%, P<0.0001). Endometriosis and adnexal adhesions detected by laparoscopy were the most common abnormalities in the both groups.[9] In the study of Chanu et al.,[10] 88 (58.28%) of 151 patients were in the primary and 63 (41.72%) were in the secondary infertility group. These patients underwent diagnostic hysterolaparoscopy to

investigate the etiology of infertility. In both primary and secondary infertility patients, intraoperatively detected laparoscopic abnormalities (37.5% and 49.2%) were more common than hysteroscopic abnormalities (7.95% and 14.29%). Laparoscopic abnormalities were significant in both groups. The most common abnormalities in the both infertility groups were adhesions and hydrosalpinx.[10] In our study, adhesions detected laparoscopically were 35.5% and 38.2% in patients with primary and secondary infertility, respectively, and are similar to other studies. The study group of Jain et al.[11] consisted of 121 women with primary and 82 women with secondary infertility. Tubal pathology was observed in 62.8% and 54.8% of primary and secondary infertile women who underwent laparoscopic chromotubation, respectively. Fallopian tubes (unilateral or bilateral) were observed to be blocked in 57% of women with primary and 51.2% of women with secondary infertility. Laparoscopically observed adhesions were seen in 33% of women with primary and 31% of women with secondary infertility. The incidence of dense adhesions was 13.2% and 6.1%, respectively.[11] In our study, laparoscopic chromotubation was applied to 72 (94.7%) out of 76 patients with primary infertility and 63 (92.6%) out of 68 patients with secondary infertility, and tubal passage was observed. Bilateral passage was not observed in 4 (5.3%) patients in the primary and in 5 (7.4%) patients in the secondary infertile group. The presence of unilateral passage was not examined separately in our study. The presence of dense adhesion secondary to endometriosis was seen in 8 (10.5%) patients in the primary and in 5 (7.4%) patients in the secondary infertile group. The frequency of dense adhesion is similar to other studies. In the study conducted by Shamim et al.,[12] 38 (70.4%) of the 54 patients included had primary infertility and 16 (29.6%) had secondary infertility. Pelvic adhesions were reported in 7 (18.4%) of the primary and in 3 (18.7%) of the secondary infertility group.[12] Since our patient population was larger compared to this study, intraoperatively detected adhesions were 27 (35.5%) in the primary infertility group and 26 (38.2%) in the secondary infertility group, which is more common. Stochino-Loi et al.[13] calculated the mean age of 180 patients with preoperative AMH values as 30±3.8 years and 31.2±3.6 years for AMH ≥2 ng/ml and <2 AMH ≥1 ng/ml, respectively. Of the 180 patients who underwent surgery for endometriosis or endometrioma after preoperative AMH values were seen, 100 (74.6%) out of 134 (74.4%) patients with preoperative AMH ≥2ng/ml achieved pregnancy in the postoperative period, 54% of these pregnancies were spontaneous and 46% with ART. Of the 46 patients with <2 AMH ≥1 ng/ml, 34 (73.9%) became pregnant, 20 of them (58.8%) spontaneously and 14 (41.2%) with ART.[13] The AMH of the patients included in our study was >0.59. 79 of the 144 patients included were able to become pregnant. Of these, 55 (69.6%) conceived spontaneously, 17 (21.5%) through IVF, and 7 (7.9%) through IUI. The included groups were not separated by AMH values, and assisted reproductive techniques were examined as IUI and IVF. In another study, 44 patients out of 176 had uterine septum, while 132 were in the control group. Pregnancy occurred in 17 (38.6%) of 44 patients who underwent surgery for uterine septum. Pregnancy occurred in 27 (20.4%) out of 132 patients in the control group. ($p<0.05$). Live birth rates were 34.1 and 18.9 in the septum and control groups, respectively.[14] Of the 76 patients in the primary infertility group included in our study, 42 (55.3%) achieved pregnancy, 11 (26.2%) had spontaneous vaginal delivery, 23 (54.8%) had cesarean section, and 8 (19%) had spontaneous abortion. In the study conducted by Pabuçcu et al.[15] with 61 patients aged ≤35 with primary infertility and uterine septum, 25 patients (41%) became pregnant after septum resection and 18 (29.5%) of them gave birth. 12 (66.6%) of these deliveries were by cesarean section. Spontaneous abortion occurred in 7 (11.5%) patients.[15] Although the number of patients included in our study was high, our spontaneous birth rate was high, but our miscarriage rate was similar to the other study.

In another study involving 360 patients, 19 (5.27%) of those who underwent laparoscopy and hysteroscopy due to infertility were found to have uterine anomalies. 7 (37.15%) of these were defined as septate uterus. Among the 360 women examined, 51 (14.16%) had endometriosis and 24 (6.66%) had ovarian cysts. Pelvic adhesions were identified as an infertility factor in 40 (11.11%) of our patients.[16] In addition to laparoscopy, hysteroscopy was performed in necessary patients in 144 patients with infertility diagnosis included in our study. Ovarian cysts were observed in 37 (25.7%) of the patients, uterine septum in 39 (27.1%), pelvic adhesion in 63 (43.7%), and endometriosis in 13 (9%). Bilateral tubal passage was not observed in 9 (6.3%) patients. The fact that our patient number is small but the pathologies obtained are close in number is due to the fact that we are a last-level health institution and we perform complicated cases. In our study, when pregnancy results after β-hCG positivity were examined, high values such as cesarean section rates were observed in both infertility groups, 54.8% in the primary infertility group and 54.1% in the secondary infertility group. In the study conducted by De Geyter et al.,[17] it was reported that cesarean section rates in pregnancies obtained with ART could exceed 40% due to multiple pregnancies and age-related complications. In this context, it can be said that cesarean section rates in our study are consistent with the values reported in the literature.[17] In the study conducted by Maheshwari et al.,[18] it is stated that IVF is an important treatment option for women over 35 years of age and is preferred due to the low spontaneous pregnancy rates in this age group. In our study, the reason for the relatively low use of IVF in women in the younger age group may be the higher spontaneous pregnancy rates. It was determined that IVF was used at a rate of 28.6% in the primary infertility group and 10.8% in the secondary infertility group. According to literature reviews, IVF has higher success rates, especially in advanced age and in the presence of serious tubal factors.[18] In another study, a total of 226 infertile patients diagnosed with both adenomyosis (AM) and en-

dometriosis (EM) underwent laparoscopic surgery. Forty-three patients were excluded based on predetermined criteria. Additionally, seven patients who became pregnant during the study period but did not deliver were excluded from the final analysis.To evaluate factors influencing pregnancies resulting in live birth, the remaining 176 women were divided into two groups: Group A (n=97) included women who achieved live birth after surgery (81 term and 16 preterm deliveries), while Group B (n=79) comprised those who failed to achieve live birth.The mean age of women in Group A was 32.52±3.20 years, whereas it was 33.53±3.95 years in Group B; patients with live births were significant y younger (p=0.046). Among the 183 patients who achieved clinical pregnancy, 135 conceived through assisted reproductive technology (ART) and 48 conceived spontaneously. In the ART group, 70 women achieved live birth, while 27 live births occurred in the spontaneous conception group.[19] In our study, among a total of 144 patients diagnosed with infertility, 79 (54.9%) had a positive clinical pregnancy test. Of these, 55 (69.9%) conceived spontaneously, while 24 (30.4%) achieved pregnancy through assisted reproductive techniques (ART). Regardless of the mode of conception, 63 out of 79 patients (79.7%) resulted in live births.

In a 2020 study involving 230 women who underwent combined hystero-laparoscopy, the participants' ages ranged from 21 to 46 years, with a mean age of 35.6±5.9 years. Among the cases, 106 (46.1%) had primary infertility and 124 (53.9%) had secondary infertility. Lesions detected during hystero-laparoscopy, regardless of infertility etiology, included intrauterine adhesions (41.3%; n=95), endometrial polyps (20.0%; n=46), submucosal fib oids (16.1%; n=37), and Müllerian duct anomalies (14.8%; n=34). The most common Müllerian anomaly was arcuate uterus (41.2%; n=14). Abnormal laparoscopic fin - ings were observed in 171 patients (74.4%), with tubal pathologies present in 161 (70.0%), predominantly tubal blockage (56.5%; n=130) and hydrosalpinx (41.7%; n=96). Bilateral tubal obstruction occurred in 46 cases (20.0%). Pelvic adhesions and endometriosis were detected in 91 (39.6%) and 19 (8.8%) women, respectively.[20]

In our study, a total of 144 patients were evaluated. The first group consisted of 76 women (52.8%) with primary infertility, and the second group included 68 women (47.2%) with secondary infertility. Among the overall cohort, 37 patients (25.7%) had ovarian cysts, 39 (27.1%) had uterine septum, 53 (36.8%) presented with pelvic adhesions, and 13 (9%) were diagnosed with endometriosis. Bilateral or unilateral tubal occlusion was noted in 9 patients (6.3%).

In our study, uterine anomalies were limited to uterine septum, and tubal pathology was restricted to bilateral occlusion.

The main limitation of this study is its retrospective design, which does not completely eliminate potential selection and information bias. In addition, the small sample size limits the generalizability of the findings

Only septate uterus cases were included, while other uterine anomalies were excluded. Since part of the data was based on patient self-report, there is a risk of recall bias.

Moreover, the absence of randomization and a control group prevents a defini ive causal interpretation between surgical intervention and pregnancy outcomes.

However, the strength of our study is that chromotubation is performed on patients with infertility diagnosis, tubal patency is demonstrated, tubal pathologies are evaluated and simultaneous treatment is provided. Since the cavity is checked with offic hysteroscopy during the case, the exclusion of uterine pathologies is defined during the intraoperative process. Nevertheless, the study provides valuable clinical insights into the potential benefits of simultaneous laparoscopic and hysteroscopic surgery in infertile women.

Conclusion

Most pelvic pathologies in infertile women often cannot be adequately evaluated with routine pelvic examinations and standard diagnostic methods, and additional diagnostic methods are needed. Hysterolaparoscopy, when performed with appropriate patient selection, can be accepted as a definiti e diagnosis and treatment method for comprehensive evaluation of female infertility. Prospective or retrospective studies to be conducted in the future will also be supportive of our study.

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Ethics Committee Approval

The study was approved by the Süleyman Demirel University Hospital Ethics Committee (Date: 01.08.2024, Decision No: 20).

Informed Consent

Retrospective study.

Peer-review

Externally peer-reviewed.

Authorship Contributions

Concept: I.T., A.D.B.; Design: I.T., A.D.B., H.B.O.; Supervision: I.T., A.D.B.; Fundings: I.T., A.D.B.; Materials: I.T., A.D.B., H.B.O.; Data collection &/ or processing: I.T., A.D.B., H.B.O.; Analysis and/or interpretation: I.T.; Literature search: I.T., A.D.B.; Writing: I.T., A.D.B.; Critical review: I.T.

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Conflict of Interest

The authors did not present any potential conflicts of interest.

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Diagnostik Laparoskopi ve/veya Operatif/Ofis isteroskopi Uygulanan Hastaların Spontan/Yardımcı Üreme Teknikleri ile Gebelik Sonuçlarının Araştırılması

Amaç: Primer veya sekonder infertilite nedeniyle diagnostik laparoskopi ve/veya operatif/ofis histeroskopi uygulanan hastaların spontan veya yardımcı üreme teknikleri ile gebelik sonuçlarının araştırılması amaçlandı.

Gereç ve Yöntem: Çalışmamız üçüncü basamak sağlık merkezine Ocak 202-Mayıs 2024 tarihleri arasında primer veya sekonder infertilite tanıları ile diagnostik laparoskopi (L/S) ve endikasyona göre ofis/operatif histeroskopi (H/S) eşliğinde adezyolizis, kromotubasyon, kistektomi, kist aspirasyonu vb. ve H/S ile kavite kontrolü, septum rezeksiyonu yapılan 144 hastadan oluşmaktadır. İntrauterin patoloji ekartasyonu nedeniyle hastalara ofis histeroskopi ile kavite kontrolü yapıldı. Bulgular not edildi. Adezyon, endometriozis, kist veya tubal patoloji izlenen hastalara cerrahi müdahaleler yapıldı.

Bulgular: 76 (%52.7)'sı primer, 68 (%47.2)'i sekonder infertiliteye sahip hasta saptandı. Primer ve sekonder infertillerin sırasıyla %25 ve %26.5'inde kist; %27 ve %26.5'inde septum; %35.5 ve %38.2'sinde adezyon; %10.5 ve %7.4'ünde endometriozis ve primer infertillerin %94.7'sinde, sekonder infertillerin %92.6'sında bilateral/unilateral tubal geçiş görüldü. β-hCG, primer ve sekonder infertil hastalarda sırasıyla 42 (%55.3)'sinde ve 37 (%54.4)'sinde pozitif izlenmiştir. β-hCG pozitif olan primer infertil grubun 3 (%7.1)'ünde IUI, 12 (%28.6)'sinde IVF, 27 (%64.3)'sinde spontan yollarla gebelik gerçekleşmiştir. İki grupta da operasyon sonrası spontan gebelik ve sezaryen ile doğum oranları daha yüksek gözlemlenmiştir.

Sonuç: İnfertilite nedeniyle eş zamanlı laparoskopik ve histeroskopik cerrahi yapılan hastalarda sık saptadığımız pelvik ve uterin patolojilerin opere edilmesi sonrası gebelik sonuçlarına olumlu katkıda bulunduğunu düşünmekteyiz.

Anahtar Sözcükler: Gebelik; histeroskopi; infertilite; laparoskopi; yardımcı üreme teknikleri.