

Diagnostic laparoscopy findings in unexplained infertility cases

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Summary

Objective: Evaluation of diagnostic laparoscopy findings in 600 unexplained infertility cases. **Materials and Methods:** A total of 600 diagnostic laparoscopies performed between 1995 and 2008 were investigated. Laparoscopies were performed in the proliferative phase of the cycle. General anesthesia was performed in all cases. **Results:** Normal genital findings were determined in 47.50% of primary infertile cases and in 47% of secondary infertile cases. Pelvic adhesion was the most frequent finding encountered and it was seen at a rate of 20% in the primary infertility group and 18% in the secondary infertility group. Endometriosis was determined to have a rate of 15% in the primary infertility group and 11.5% in the secondary infertility group. **Conclusion:** Laparoscopy has an important place in the diagnosis and planning in the treatment of infertility. Planning the convenient treatment for patients will prevent both economic loss and time loss.

Key words: Infertility, Diagnostic laparoscopy.

Introduction

Infertility is one of the most important health problems for individuals in the young age group. If pregnancy does not occur in a one-year period despite unprotected intercourse, causes of infertility should be investigated [1]. Baseline tests for infertility investigation consist of determination of mid-luteal progesterone level, semen analysis and hysterosalpingography in the evaluation of tubal patency. Endoscopic evaluation of the pelvic cavity is necessary in cases of suspicion of pelvic adhesions [2]. Laparoscopy is used in the diagnosis and treatment of infertility, pelvic pain, ectopic pregnancy, endometriosis and neoplasm. However, with the finding of a broad field of use, especially IVF-ET in recent years, either diagnostic or operative laparoscopy has begun to decrease in value for evaluation of infertility. In our study, we discuss the findings of diagnostic laparoscopy that we performed frequently until the beginning of the year 2000 but which today we nearly never use in evaluation of unexplained infertility.

Materials and Methods

In our study, 600 diagnostic laparoscopies performed due to a diagnosis of unexplained primary infertility between January 1995 and May 2008 were investigated. Couples having normal spermiogram, hormone profile, ovulation and hysterosalpingography but not achieving pregnancy were considered as unexplained infertility. Laparoscopies were performed in the proliferative phase of the cycle. General anesthesia was performed in all cases. First, the urinary bladder of the patient in the lithotomy position was emptied and sterile drapes were placed after general abdominal cleaning with iodine. After cervix and vagina cleaning, a Rubin cannula was inserted into the cervix

by holding the cervix with single threaded teneculum. Following infraumbilical or intraumbilical incision, either a Veress needle or direct trocar was inserted into the abdomen which was then insufflated with carbon dioxide gas. A Karl Storz video laparoscope was used for the procedure. After observation of the upper abdomen, the patient was placed in the Trendelenburg position and then pelvic evaluation was performed. In each case, two 5-mm accessory trocars, one in the suprapubic region and one in the left lower quadrant, were inserted and manipulation of tubes and ovaries was performed by the instruments inserted through these regions, and the determined pathologies were removed. The procedure ended following a methylene blue test. After surgery, CO₂ in the abdomen was emptied as much as possible and trocar incisions were closed. The patients were discharged approximately 8-24 hours after the operation.

Results

When the total 800 cases were analyzed according to age, it was determined that 84% of patients were between 21-35 years old, 9% were ≤ 20 years old, and 7% were between 36-40 years old. Mean age was 25.7 (19- 40) years in the primary infertility group and 29.6 (22-40) years in the secondary infertility group. Duration of infertility was 6.8 years in the primary infertility group and 5.7 years in the secondary infertility group. Four hundred of our cases were primary infertiles and 200 were secondary infertiles. When the findings of laparoscopy were evaluated in the primary infertility group, pelvic adhesion was determined in 20% of cases, endometriosis in 15%, tubal pathology in 4.25% of cases, and normal findings were observed in 47.5 % of the cases. In the secondary infertility group, pelvic adhesions were determined in 18% of cases, endometriosis in 11.50%, tubal pathology in 7.50%, and pelvic operations in 7.50% of the cases whereas normal findings were observed in 47% of the cases (Table 1).

Revised manuscript accepted for publication January 12, 2012

Table 1. — Laparoscopy findings.

	Primary infertility (400)		Secondary infertility (200)	
Age (years)	25.65 ± 2.7		29.60 ± 4.3	
Duration of infertility (years)	6.75 ± 4.4		5.7 ± 4.6	
Results	Number	%	Number	%
Pelvic adhesion	80	20	36	18
Endometriosis	60	15	23	11.50
Tubal pathology	17	4.25	15	7.50
Pelvic operation	14	3.50	15	7.50
Ovarian cyst	10	2.50	4	2
Congenital anomaly*	10	2.50	2	1
Normal finding	190	47.50	94	47
Other**	20	5	11	5.50

*Uterus. tube, ovary; **Tb, myoma. paraovarian cyst.

Discussion

Laparoscopy, which is defined as observation of the abdominal cavity through an optic system, is widely used for both diagnostic and operative purposes today. Diagnostic laparoscopy is used most commonly in the differential diagnosis of infertility, endometriosis, chronic pelvic pain, acute abdomen and in the diagnosis and differential diagnosis of pelvic and other abdominal masses. In infertility cases, laparoscopy is an important diagnostic and treatment method for evaluation of tubal, ovarian, uterine and peritoneal factors. Tubal and pelvic pathology is responsible for 14-33% of female infertility and the diagnosis can only be made by hysterosalpingography and laparoscopy [3-6]. In 509 laparoscopic procedures performed in infertile cases by Hamid *et al.* [7], pelvic adhesion was determined to be 20%, tubal pathology 15% and endometriosis 9% of cases. In our study, pelvic adhesion was determined in 20% of the primary infertile cases and 18% of the secondary infertile cases. Federici *et al.* [8] determined endometriosis in 24.5% of cases in which they performed laparoscopy and stated that this was an important cause of infertility. In our study, endometriosis was determined in 15% of the primary infertile cases and in 11.50% of secondary infertile cases; this percentage is lower than that of Federici *et al.* It is more harmonious with the results found by Hamid *et al.* [7] Farhi *et al.* determined tubal pathology in 18% of primary infertile cases [6]. In our study group, tubal

pathology was determined in 4.25% of cases in the primary infertility group and in 7.50% of cases in the secondary infertile group.

As a result of direct observation of the pelvic organs, diagnosis of endometriosis and pelvic adhesions can easily be made. In our study, these two pathologies were the most commonly encountered pelvic pathology, thus showing the significance of laparoscopy in diagnosis and removal of the present pathology.

In conclusion, performance of diagnostic laparoscopy in diagnosis and planning of treatment of unexplained infertility will allow both removal the of pathology (if there is) and choice of a more objective treatment method for patients.

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