

# An analysis of hysteroscopy experience over a seven-year period

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## Summary

**Purpose of investigation:** Over the years, hysteroscopy has been increasingly performed for various gynecological disorders. In this study, we present a review of hysteroscopic procedures performed over a 7-year period. **Methods:** Five hundred and eighty hysteroscopic procedures performed at the Department of Gynecology and Obstetrics, University of Gaziantep, Turkey from 2002 to 2009 were reviewed particularly highlighting the preoperative indications, postoperative diagnoses and complications associated with the procedure retrospectively. **Results:** The most common indication for diagnostic hysteroscopy was infertility followed by AUB. The most common pathologies for referral to operative hysteroscopy were uterine septum, endometrial polyps, Asherman's syndrome, submucous myomas, and other uterine anomalies. The complication rate was 0.86% of the total hysteroscopies. False passage and uterine perforation were the most common acute complications. No late complications occurred. **Conclusion:** Our data is consistent with reports from other studies supporting that hysteroscopy is a safe and effective minimally invasive procedure with a low rate of complications with certain surgical principles.

**Key words:** Hysteroscopy; Indication; Result; Complication.

## Introduction

The development of hysteroscopy has obtained a minimally invasive approach to common gynecologic problems, such as infertility and abnormal uterine bleeding (AUB). During the 1970s, hysteroscopy began to increasingly attract the attention of physicians as a diagnostic and therapeutic alternative due to its greater accuracy in diagnosis and treatment, reduced morbidity, and reduced health care costs [1]. Increased clinician training and smaller diameter hysteroscopes have led to a widespread use of this important technology.

In this study, we present a review of hysteroscopic procedures performed in the Department of Obstetrics and Gynecology, University of Gaziantep, Turkey over a period of 7 years from 2002 to 2009, particularly highlighting the preoperative indications, postoperative diagnoses and complications associated with the procedure.

## Materials and Methods

Cases from the database of the Department of Obstetrics and Gynaecology in Gaziantep University pertaining to all patients who underwent hysteroscopy – diagnostic or therapeutic – between January 2002 and July 2009 were analyzed (N = 580). Particular attention was given to the indication for the procedure, postoperative diagnoses, and associated complications.

Therapeutic hysteroscopy was performed after dilation of the cervix to Hegar number 9. A 9-mm rigid Storz resectoscope was inserted into the uterine cavity. Distention of the uterine cavity was achieved using 1.5% glycine with an inflow pressure of 110 mmHg provided by the Storz Hamou Endomat.

## Results

Over the 7-year period from January 2002 to July 2009, 580 hysteroscopic procedures were performed at the Department of Obstetrics and Gynaecology in Gaziantep University. All procedures were started as diagnostic hysteroscopies and then we performed therapeutic hysteroscopies on 421 (72.59%) of the 580 patients. The mean age of the patients was 31,1 years (range 18 to 63 years). Of the 580 patients 337 (58.20%) also underwent laparoscopy together with the hysteroscopic operations.

The most common indication for diagnostic hysteroscopy was infertility followed by AUB (Table 1).

The most typical pathologies diagnosed at operative hysteroscopy were uterine septum, endometrial polyps, Asherman's syndrome, submucous myomas, and other uterine anomalies. In 27.41% of cases, no obvious pathology was detected. The most common procedures performed during operative hysteroscopies (421 procedures) were uterine septum resection, intrauterine adhesiolysis, polypectomy, and myomectomy.

Acute complications occurred in five (0.86%) of the 580 patients who underwent hysteroscopy. The majority of complications were uterine perforation, which occurred during dilatation of the cervix in one case or during intrauterine adhesiolysis in three cases. One case of fluid overload was noted during multiple myomectomy. No blood transfusion, embolism, urinary tract or bowel injury, electrosurgical injury, infection or dissemination of tumor was reported.

## Discussion

Hysteroscopy is a minimally invasive procedure and has gradually gained worldwide popularity due to its effectivity, lower costs and simplicity, as we have experienced at our center (Table 2).

Revised manuscript accepted for publication September 30, 2009

Table 1. — Patient complaints and postoperative hysteroscopic diagnoses.

Complaint	n (%)	Septate uterus	Uterine polyps	Uterine synechiae	Myomas	Other mullerian anomalies	Normal cavity ± IUD
Infertility	411 (71)	132	87	39	16	10	127
AUB	99 (17)	—	52	5	27	—	15
RM	23 (4)	15	3	2	1	—	2
Others	47 (8)	3	8	17	2	2	15
Total	580	150 (26)	150 (26)	63 (11)	46 (8)	12 (2)	159 (27)

AUB: Abnormal uterine bleeding; RM: Recurrent miscarriage; IUD: Intrauterine contraceptive device.

Table 2. — Distribution of cases and postoperative diagnoses on a yearly basis.

Years	n (%)	Septate uterus	Uterine polyps	Uterine synechiae	Myomas	Other mullerian anomalies	Normal
2002	18 (3)	6	3	3	2	—	4
2003	18 (3)	8	6	—	1	—	3
2004	86 (15)	17	12	13	11	3	30
2005	97 (17)	25	22	15	7	3	25
2006	86 (15)	22	26	10	3	2	23
2007	58 (10)	18	23	5	1	1	10
2008	103 (18)	24	25	9	8	1	36
2009	114 (19)	30	33	8	13	2	28
Total	580	150 (26)	150 (26)	63 (11)	46 (8)	12 (2)	159 (27)

In the present study, the most common indication for the procedure was a complaint of infertility. While some authors consider that hysteroscopy is a technique that complements hysterosalpingogram (HSG) [2], others claim that HSG or one of the newer alternative techniques to evaluate tubal patency should supplement the hysteroscopic assessment [3] in infertile patients. In our clinic we usually perform hysteroscopy, a technique that complements HSG for infertility. In this study we performed hysteroscopy on 411 infertile patients who had abnormal HSGs and we observed no obvious intrauterine pathology in 127 (31%) patients. According to this result the sensitivity of HSG at our clinic was 69%. This result is supported by a study by Kessler and Lancet who reported that in about two-thirds of the cases hysteroscopy findings were not correlated with those found on HSG [4].

Our study found septate uterus to be the most common anomaly in the infertile population who had undergone hysteroscopy following HSG. In women with infertility, the role of uterine anomalies, and particularly that of the septate uterus, remains unclear [5-7]. Several case series demonstrated the mean pregnancy rate in previously infertile patients to be 47% and a reduction in the spontaneous abortion rate, from 91% to 17% on average, after hysteroscopic metroplasty [6, 8]. Thus we performed hysteroscopic septum resection and metroplasty on 132 infertile patients and on 15 patients suffering from recurrent miscarriage (RM).

The literature that associates myomas and endometrial polyps with infertility/reproductive loss suggests that pregnancy rates approximating 50% are achieved with myomectomy or polypectomy [6, 8]. We performed hysteroscopic polypectomy on 87 and myomectomy on 16 infertile patients.

The acute complication rate associated with this proce-

cedure in this study was 0.86%, which is similar to that reported elsewhere in the medical literature with rates varying between 0.22% and 5.2% [9, 10]. The main acute complications in the present study were found to be false passage and uterine perforation (80% of all acute complications), which is similar to that reported by other authors [9-11]. Although Propst *et al.* [12] reported fluid overload as the most common complication we observed fluid overload in only one case. This may be partly explained with some of the principles we follow at our clinic such as the meticulous monitoring of the inflow pressure during uterine distention, close monitoring of any fluid deficit and possible a future revision surgery when the duration of procedure exceeds one hour.

This report summarizes the hysteroscopic experience with 580 patients, 411 with primary or secondary infertility, 99 with AUB without infertility or RM, 23 with RM, 47 with other complaints like primary or secondary amenorrhea, chronic pelvic pain or difficulties of retrieval of IUDs. This study further demonstrates the utility of hysteroscopy in diagnosis and treatment of uterine malformations, endometrial polyps, intrauterine adhesions and uterine submucous leiomyomas.

In conclusion, our data is consistent with reports from other studies supporting that hysteroscopy is a safe and effective minimally invasive procedure with a low rate of complications with certain surgical principles.

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