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# Diagnostic and operative hysteroscopy: the experience of the maternity center of a central Tunisian university hospital

## Abstract

The exploration of the uterine cavity has always been seen as a necessity by gynecologists. In fact, hysteroscopy has now become the gold standard for both the diagnosis and treatment of most benign uterine intracavitary pathologies. This method has demonstrated better diagnostic accuracy compared to other investigative tools and has facilitated the approach to intra-cervical lesions, with all its advantages as a minimally invasive technique for both female patients and physicians. To study the indications and results of this examination, we conducted a retrospective study on 62 cases of diagnostic and/or operative hysteroscopy collected at the Gynecology-Obstetrics Department of Ibn el Jazzar Regional Hospital in Kairouan during a two-year period from January 1, 2022, to December 31, 2023

**Keywords:** hysteroscopy, maternity, gynecological surgery, postmenopausal

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## Introduction

Hysteroscopy, initially a diagnostic procedure, is increasingly being used for endo-uterine surgery. Since the 1980s, hysteroscopy has created an important transition in the management of intracavitary abnormalities in terms of gynecological surgery.[1] Thus, hysteroscopy has now become the gold standard for both diagnosis and treatment of most benign uterine intracavitary pathologies. We present in this work the experience of the Gynecology-Obstetrics Department of the Ibn el Jazzar Regional Hospital in Kairouan in the field of hysteroscopy. The objectives of our study were to study the obtained indications and results of hysteroscopy, and to correlate the results of hysteroscopy with other means of exploration of the uterine cavity.

## Materials and methods

This is a descriptive retrospective study carried out at the department of Gynecology-Obstetrics of the regional hospital Ibn el Jazzar of Kairouan during a period of two years, from January 1st, 2022 to December 31st, 2023. During this period, we collected 62 cases of hysteroscopy performed for diagnostic and/or operative purposes in the Department of Obstetrics and Gynecology. For each of our patients, data was collected from medical records, operative report books and anesthesia records. We were interested in collecting general data; history; presenting complaints; complementary hysteroscopy examinations; results of diagnostic hysteroscopy and the procedures performed during operative hysteroscopy.

## Results

During the study period, we enrolled 62 patients who had undergone hysteroscopy in the Gynecology-Obstetrics Department of the Ibn el Jazzar Regional Hospital in Kairouan, and among these, 13 patients had undergone surgical hysteroscopy. The mean age of the patients was 47.3 ± 10.2 years with extremes ranging from 31 to 74 years. 43 women in our study were of rural origin versus 19 women of urban origin. Postmenopausal women accounted for 41.9%. 16 women were overweight, i.e., 25.8% and 12 were obese i.e. 19.4%. Eleven of our patients had a history of HBP, that is, 17.7%. Six patients (9.7%) had a history of diabetes. The mean parity of our patients was 3.3±3.7 with extremes ranging from 0 to 10. Regarding the surgical history, one patient was found to have undergone surgical hysteroscopy with hysteroscopic myoma resection, i.e. 1.6%.

One patient had previously undergone a laparoscopic myomectomy. Regarding the presenting complaints, metrorrhagia was the main call sign in 38 patients (62.3%), 18 of whom were postmenopausal. Among the other reasons for consultation, 6 patients had consulted for infertility, which was primary in 5 women. One patient had as a reason the exploration of an abortive disease and 3 patients had had a migrant intrauterine device removed. For the other reasons, it was found: Five patients (8.1%) had undergone hysteroscopy as part of the follow-up of Tamoxifen treatment. Five patients (8.1%) consulted for pelvic pain; three patients (4.9%) consulted for leucorrhea; of these, one patient (1.6%) was postmenopausal and one patient (1.6%) was referred for a dysplastic smear.

The transvaginal ± suprapubic ultrasound remains the most frequently prescribed first-line examination, and was performed in 51 patients, i.e. 82.3%. A thickening of the endometrium was noted in 31 cases, i.e. 50% of patients. An enlarged uterus with the presence of uterine fibroma was noted in 8 patients, i.e. 12.9% of cases.

Five patients had undergone hysterosalpingography, i.e. 8.1%. These were patients who were consulting for sterility, of which it was normal in only one patient.

We found: one case of an association of myoma and polyp, i.e. 1.6%; one case of a filling defect suggesting a polyp, i.e. 1.6%; tubal obstruction and endometrial hypertrophy in 1.6% of cases and finally a case of uterine septum. The cervico-vaginal smear was carried out in 27 patients, i.e. 43.5%; it was dystrophic in six cases, i.e. 9.7%.

Diagnostic and surgical hysteroscopies were performed in the operating room in a non-concomitant manner. However, sedation was practiced in 17 cases (27.4%), spinal anesthesia was performed in 11 cases (17.7%), a paracervical block was performed in eight cases (13%), and six patients received general anesthesia (9.7%). We performed 56 diagnostic hysteroscopies and 13 operative hysteroscopies. Among the patients who had undergone surgical hysteroscopy, seven patients had first undergone a diagnostic hysteroscopy.

Diagnostic hysteroscopy was normal (three patients) or inconclusive (six patients) in nine patients (14.5%).

The results of the diagnostic hysteroscopy were as follows:

A. A hypertrophy of the endometrium in 12 cases (19.4%) of which:

i. Two diffuse polyploid hypertrophies (3.2%).

ii. One glandulocystic hypertrophy (1.6%).

iii. Five non-typical simple diffuse hypertrophies (8.1%).

iv. Three localized hypertrophies (4.9%).

v. One irregular hypertrophy with anarchic vascularization (1.6%).

B. Six cases of endometrial atrophy (9.7%); four of these women were postmenopausal and two were non-menopausal aged 37 and 46 years respectively.

C. Polyps in 11 cases (17.7%): hysteroscopy made it possible to specify their size, location and number.

D. Six cases of fibroma, (9.7%).

E. Three withdrawals of intra uterine devices were performed, (4.9%).

F. Five cases of intracavitary synechiae (8.1%).

G. Two cases of polyp and myoma association (one case of polymyomatous uterus in one patient), (3.2%).

H. One case of fundal corporal septum (1.6%) (The patient had not had a resection for her septum).

I. One case of trophoblastic retention image, (1.6%).

J. A case of candle stain associated with a fundal polyp, (1.6%), with an anatomopathological examination showing the presence of a polyp without signs of malignancy.

Diagnostic hysteroscopy allowed the following procedures to be performed:

a) Removal of intrauterine devices in three patients (4.9%).

b) Biopsy curettage was performed in 26 patients, i.e. 41.9% of cases with the Novak cannula.

c) Directed endometrial biopsy performed in two patients with signs of atypia, i.e. 3.2%.

d) A curettage with a blunt curette performed in two patients, i.e. 3.2%.

e) Two ablations of polypoid formations by curettage, i.e. 3.2%.

Among our 62 patients, only 13 had undergone operative hysteroscopy. Polypectomy was performed in ten cases, i.e. 16.1%; myomectomy was performed in two cases, i.e. 3.2%. Only one patient had undergone endometrectomy of the posterior wall of the uterus, which was combined with polypectomy, i.e. 1.3%. In two cases (3.2%), septum resection was performed.

In our series, intraoperative incidents and events represented three cases, i.e. 4.9%.

An incident occurred during the diagnostic hysteroscopy (1.6%): it is a false endometrial route.

During the operative hysteroscopy, two incidents and one event occurred, i.e. 3.2%: bleeding with the presence of air bubbles was noted in one case, i.e. 1.6%, which occurred during a myoma resection leading to the interruption of the intervention.

A uterine perforation occurred during resection of a septum, hence the conversion of the procedure to laparotomy with suture of a fundal breach.

## Discussion

Diagnostic hysteroscopy has become the gold standard in the diagnosis of intrauterine lesions, as it allows the biopsy and resection of these lesions.[2,3] This procedure has revealed a sensitivity ranging from 84% to 97% and a specificity ranging from 88% to 93%[4] for the detection of intrauterine lesions. In addition, the procedure is well tolerated by most ambulatory patients.[3,5]

The main limitations of this diagnostic test are pain and discomfort, in addition to vagal reactions. The use of anesthesia is the rule.[3,6]

The diagnostic hysteroscopy indication most reported in the literature is bleeding of intracavitary origin, mainly menorrhagia and metrorrhagia. In a 2016 study by Chhikara et al.,[7] the most commonly reported symptom was menorrhagia (40%), followed by metrorrhagia (38%), polymenorrhagia (12%) and postmenopausal bleeding (10%). In the study by Guin et al.,[8] menorrhagia (30%) was the most frequently reported symptom.

Furthermore, menorrhagia was reported as the main indication for hysteroscopy in 49.6% by Sciarra and Valle[9] and 37.5% by Hamou,[10] whereas abnormal perimenopausal uterine bleeding was the main indication for hysteroscopy in the study by Pasqualotto et al.[11]

In our study, metrorrhagia was the call sign in 46.8% of patients, 29% of whom were postmenopausal and 3.2% had postabortion metrorrhagia.

The interest of diagnostic and therapeutic hysteroscopy in the context of infertility has been the subject of numerous studies and applies to most endo-uterine pathologies. For example, Pansky et al.[12] report a 30% incidence of abnormalities diagnosed by hysteroscopy in 221 infertile female patients. In our series, six patients had a history of infertility, i.e. 9.7%, five of whom had primary infertility (8.1%); and one had secondary infertility (1.6%) after voluntary interruption of pregnancy.

The removal of an intrauterine device is a formal indication of hysteroscopy, especially when the device is difficult to remove or in case of invisible sutures: the sutures may be rolled up at the endocervix or cut short.[13]

In the study by Arailh et al.[14] involving 152 premenopausal women treated for breast cancer between 2003 and 2005 and put on Tamoxifen, the incidence of uterine abnormalities was 20%. Glandulocystic polyps are the most common endometrial abnormality. Their risk of occurrence ranges from 12-25% in these female patients compared to 4% in the general population.[15] In our study, five patients (8.1%) received hysteroscopy as part of the follow-up to Tamoxifen therapy.

Like all surgical procedures, surgical hysteroscopy, beyond the expected benefits, also has its share of difficulties, risks and

complications. These complications are rare, due in part to the respect of the surgical technique and the application of systematic procedures to be followed when a complication occurs. In general, they are not very serious, but rare cases can be life-threatening.[16] Uterine perforation is the main complication of HSC resection. It is possible at all times during the operation: dilatation, introduction of the resector, loop excision, chips evacuation. Uterine perforation is the main complication of HSC resection. It is possible at all times during the operation: dilatation, introduction of the resectoscope, loop excision, chips evacuation.

There are two types of perforation: subperitoneal and limited to the uterine wall, or intraperitoneal and connecting the uterine and peritoneal cavities.[16] Hemorrhagic complications are infrequent, as are infectious complications. The main late complication in patients of childbearing age is the occurrence of synechia, the frequency of which depends on the initially treated pathology.[17]

## Conclusion

Hysteroscopy has now become the gold standard for both diagnosis and treatment of most benign intracavitary uterine pathologies. This method has demonstrated better diagnostic accuracy compared to other investigative tools and has facilitated the approach of intracervical lesions with all its advantages as a minimally invasive technique for both female patients and physicians. However, it has its limitations in both diagnostic and interventional applications, but is still the tool of choice when the indication is well established.

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## Conflicts of interest

The authors declare no conflicts of interest.

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