



Original Article

Hysteroscopy - current trends and challenges

Gour A, Zawiejska A, Mettler L

Department of Obstetrics and Gynaecology, University Hospitals Schleswig-Holstein, Campus Kiel, Germany

Abstract

Objectives : To analyze hysteroscopic procedures performed over a two year period focusing on indications, findings and complications. **Methods :** A retrospective study was done of 722 diagnostic and operative hysteroscopic procedures performed from 1st July, 2004 to 27th June, 2006. Indications, results, operative procedures and complications were analyzed. **Results :** The most common indications for hysteroscopy were abnormal uterine bleeding and incidental ultrasound finding of increased endometrial thickness in asymptomatic patients. The most common operative procedures were polypectomy, endometrial ablation or resection and myomectomy. The complication rate was 2.35% of all hysteroscopies. **Conclusion :** Hysteroscopy is a safe and reliable diagnostic and therapeutic option that can be successfully employed for various clinical conditions.

Key words : hysteroscopy, GynReg (German Endoscopic Complication Register) abnormal uterine bleeding, complications.

Introduction

Hysteroscopy started with two pioneers, Lindemann and Semm, in 1976 in Germany and has spread worldwide over the last 30 years. It has gained popularity as a diagnostic and therapeutic alternative due to its greater accuracy in diagnosis and treatment, reduced morbidity and reduced health care cost¹. The numbers of hysteroscopic procedures have gradually increased due to adequate training opportunities available to young gynecologists. In our department hysteroscopic procedures are successfully integrated into residency training and we try to improve by periodic evaluation of procedures. This study reflects

on our experience with hysteroscopy over the 2 years period from 1st July, 2004 to 27th June 2006 focusing particularly on indications, findings and complications of the procedure.

Methods

We performed a retrospective analysis of data stored in the GynReg database of our department related to all patients who underwent diagnostic or therapeutic hysteroscopy during the study period from 1st July, 2004 to 27th June, 2006. All the 722 patients who had hysteroscopy during this period were included in the study.

Paper received on 12/09/2006 ; accepted on 15/12/2007

Correspondence :

Dr. Mettler L

Department of Obstetrics and Gynecology

University of Kiel, Germany

Michaelisstrasse 16, 24105 Kiel, Germany

Tel. +49 431 5972086 Fax : +49 431 5972116

GynReg is the German Endoscopic Compilation Register for quality control established by the Institute of Artificial Intelligence, University of Bremen, Germany. All gynecological endoscopic procedures and their complications are recorded in this computer database and are evaluated annually. GynReg can be used for individual and collective quality assessment.

After having analyzed the age wise distribution we split the study subjects into three age groups for indications, intraoperative findings and complications. The mean age of the patients was 47.7 years (range 17 to 88 years). The three groups consisted of 199 patients aged up to 36 years (25th percentile), 349 patients aged 37-58 years (26th -75th percentile) and 174 patients over 59 years of age (above the 76th percentile).

Results

A total number of 722 hysteroscopic procedures were performed during the study period. Of the 722 procedures, 433 (60%) were performed as a single procedure and 289 (40%) were part of a combined hysteroscopic and laparoscopic procedure.

Three hundred and three (42%) hysteroscopies were performed as diagnostic procedures, whereas 419 (58%) were therapeutic hysteroscopies; however, the relation between diagnostic and therapeutic hysteroscopies was different in different age groups. The percentage of diagnostic procedures varied from

65.3% in the group of younger patients (up to 36 years) to 30.5% in the group of patients 59 years or older (Figure 1).

The indications for the procedure varied, depending on the age of the patients (Figure 2). The most common indication in the whole group was incidental ultrasound finding - usually increased endometrium thickness in asymptomatic patients - (28.3%) and abnormal bleeding in the perimenopausal or postmenopausal period (27.9), whereas infertility was a predominant reason for performing a hysteroscopy in the group of younger patients (43.8%). If only diagnostic hysteroscopies were studied, primary sterility (32.0%), incidental ultrasound finding of increased endometrial thickness in asymptomatic patients (20.5%), and abnormal perimenopausal or postmenopausal bleeding (19.5%) were the most frequent indications for the whole group. Predominant indications for operative hysteroscopy were abnormal perimenopausal or postmenopausal bleeding and incidental ultrasound findings of increased endometrial thickness in asymptomatic

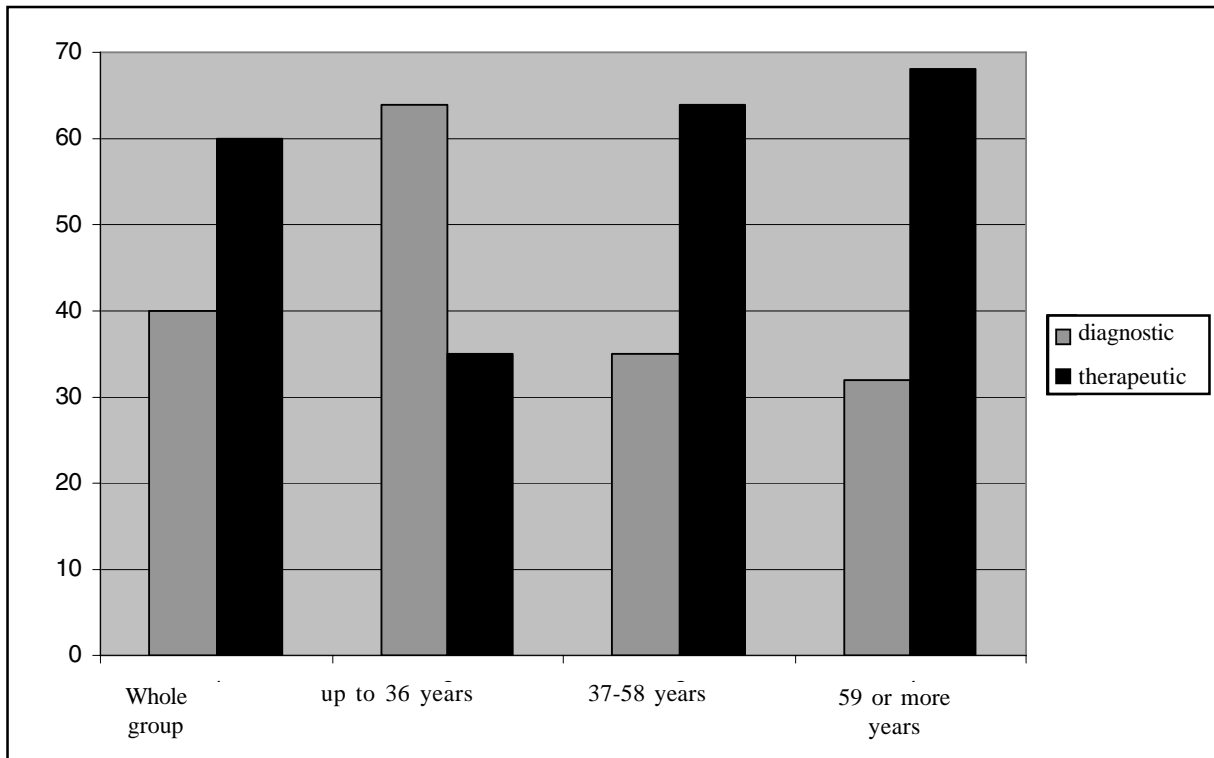


Figure 1. Agewise distribution.

patients (34% each in the whole group). On analyzing the age groups separately, coincidental ultrasound findings of increased endometrial thickness in asymptomatic patients were the predominant indication for operative procedure in the group of older patients (59.3% in the age group over 59 years), whereas perimenopausal or postmenopausal bleedings accounted for 64% of all operative procedure performed in patients aged 37-58 years.

The most common operations performed during therapeutic hysteroscopy were polypectomies (34.8% in the whole group and 62.0% in the group of 59 or more years), endometrial resections or ablations (33.0% in the whole group and above 40% in the group of 37-58 years) and myomectomies (16.7% in the whole group and 21.8% in the group of 37-58 years) (Figure 3).

The most common findings in diagnostic hysteroscopies were endometrial hypertrophy (12.2%) or atrophy (4%). In 74.3% no abnormalities were found within the uterine cavity.

Complications occurred in 17 (2.35%) patients). Perforation of the uterus occurred in 12 cases (1.67% of all procedures; 70.6% of all complications), whereas in five patients a false passage occurred during dilatation and introduction of hysteroscope. Of the 17 complications (12 perforations and 5 false passages), five (29.4%) occurred during a diagnostic procedure, four (23.5%) occurred during endometrial resection and three (17.6%) during polypectomy and five were at the beginning cases of false cervical passage. No case of fluid overload was reported.

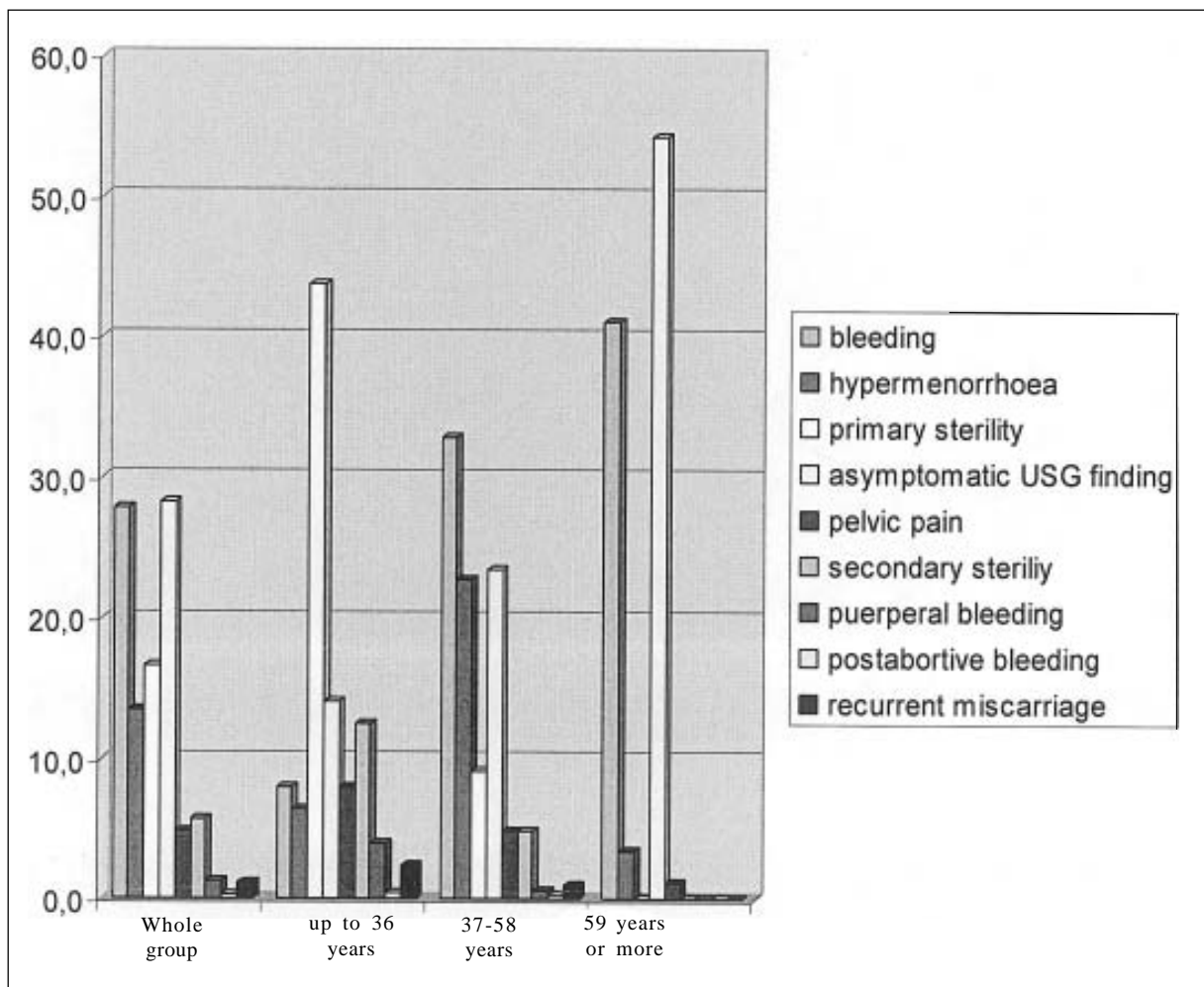


Figure 2. Indications for hysteroscopy.

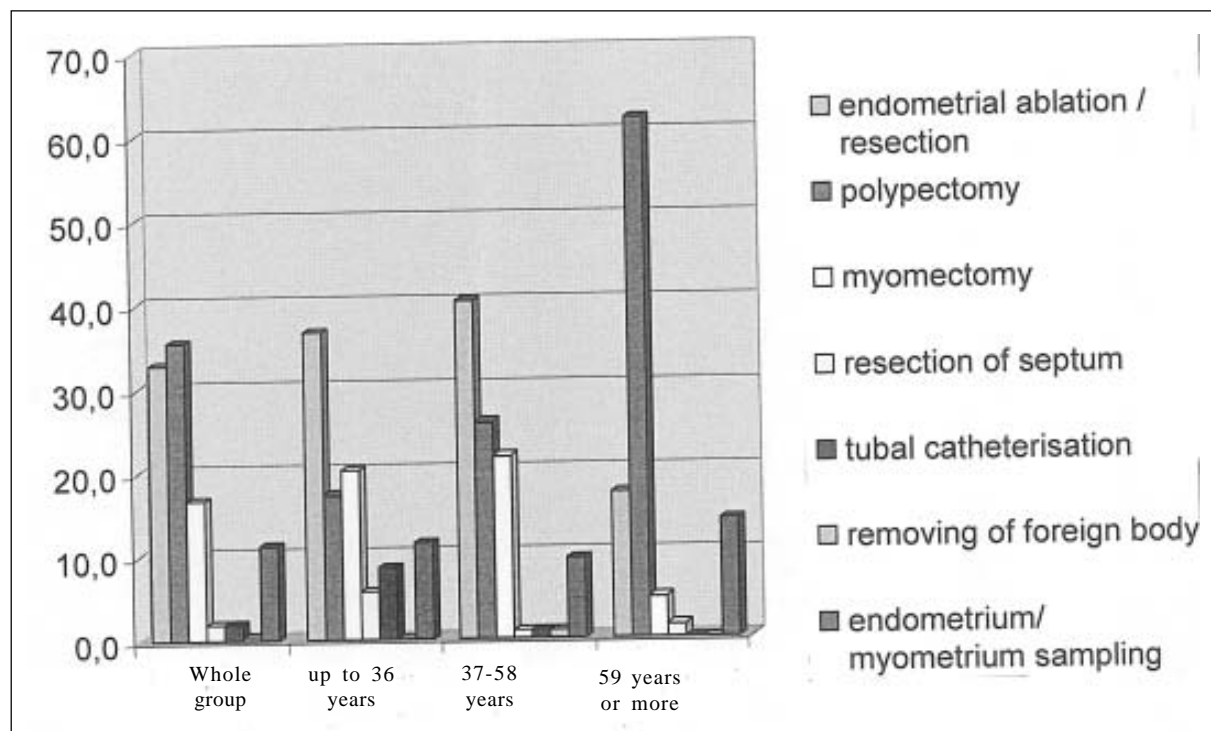


Figure 3 Operative procedures performed.

Discussion

Hysteroscopy is a well established diagnostic and operative technique widely used to diagnose and treat many common gynecological abnormalities related to the uterine cavity². It also constitutes an important diagnostic step in the treatment of infertility³⁻⁵. Hysteroscopic procedures are highly appreciated mainly for their minimal invasiveness, suitability for office gynecology, cost effectiveness and safety⁶. A diagnostic hysteroscopy is currently recommended by many authors for an outpatient setting as a safe and well accepted method with a wide range of possible applications^{7,8}. In our study, diagnostic hysteroscopy accounted for 42% of all hysteroscopic procedures. This corresponds to our previous study for the 2 years of 1998 and 1999, where diagnostic hysteroscopy was performed in 49.04% of patients⁹. The highest percentage of diagnostic procedures was noted in the group of patients up to 36 years old, which mainly required investigation for infertility or recurrent miscarriage.

Pathologies of reproductive health (primary

infertility, secondary infertility, and recurrent miscarriage) accounted for 47.7% of all hysteroscopic procedures in the group of younger women. Primary infertility as a prevalent indication for hysteroscopy in young women in the study group reflects an increased application of direct visualization of the uterine cavity in women suffering from infertility. This has been recommended for some years by many authors¹⁰⁻¹². Moreover, some authors reported better accuracy of hysteroscopy compared to hysterosalpingography in detection of fertility impairing abnormalities within the uterine cavity^{4,13}. We also had a small group of patients who underwent operative hysteroscopy viz, septum resection and tubal catheterization for treatment of infertility. The latter is not widely discussed in the literature; however we can expect an increasing number of such interventions due to more common application of direct visualization of the uterine cavity and tubal ostia in investigation for infertility. Techniques for tubal lumen visualization (fallopscopy) have been discussed with its prognostic significance^{5,14}. Tulppala et al¹⁵ and Razial et al¹⁶ have recommended diagnostic hysteroscopy in women suffering from recurrent miscarriages.

Interestingly, one fifth of all hysteroscopic procedures (and more than one third of all operative procedures) were performed because of incidental ultrasound findings of some endometrial abnormality in asymptomatic patients. This is similar to the outcome of our previous study⁹. Moreover, it constituted a leading indication for performing a hysteroscopy in the group of women of 59 or more years. This indication is not widely discussed in the literature. However, we assume that an increased number of hysteroscopic procedures performed in asymptomatic patients reflects an improved feasibility of the procedure and more common application of hysteroscopy as a method of choice if anything abnormal is found on routine ultrasound screening of the uterus. Saline hysterosonography / sonohysterography could be of potential use in these cases¹¹. Furthermore, the group of older patients also includes patients treated with tamoxifen which is known to induce endometrial changes¹⁷.

Abnormal uterine bleeding is one of the leading reasons for women to visit their gynecologists^{8,18}. According to Gimpelson and Rappold¹⁹, abnormal uterine bleeding constitutes the single most common reason for gynecological consultation. Our previous study also reported it as a main indication for diagnostic hysteroscopy⁹. In our study abnormal uterine bleeding was a predominant indication for operative hysteroscopy in the group of women aged 37-58 years and 64% of patients in this group suffered from heavy menses or peri- or postmenopausal bleeding. Many authors consider hysteroscopy with endometrial biopsy as a gold standard investigation for this pathology, as it is more accurate in diagnosis of endometrial lesions than a curettage alone while endometrial ablation/resection is superior to curettage^{8,20}.

The most common operative procedures performed in our study group were polypectomy, myomectomy and endometrial ablation/resection. This is in line with our previous study⁹. We have noticed that the incidence of endometrial polyps increases with the age of the patients (62.0% of all operative procedures were in the group of the oldest patients, compared to 17.4% in the group of patients aged up to 36 years). Submucosal fibroids and endometrial hyperplasia were predominant abnormalities found in the group of younger patients. Nagele et al⁷ in their cohort study of 2500 outpatient hysteroscopies also report such a correlation.

The complication rate in our study group was 2.35%. It is more than 1.65% reported in our previous study⁹. However, a multicenter study carried out by the American Association of Gynecologic Laparoscopists²¹ reported a complication rate of approximately 3%, whereas Cayuela et al²² reported a complication rate of more than 5%. Perforation of the uterus was a predominant complication that occurred in 1.67% of procedures. Murakami et al²³ also report this complication as the most frequent one associated with operative hysteroscopy.

Conclusion

Diagnostic and operative hysteroscopic procedures provide a safe and reliable diagnostic and therapeutic option that can be successfully applied for various gynecological disorders with a low complication rate of 2.35%.

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