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ORIGINAL ARTICLE

Flexible hysteroscopy in irregular uterine bleeding

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Summary

Purpose: *The objective of our study was to analyze the possibilities of diagnostic flexible hysteroscopy in women with irregular uterine bleeding.*

Patients and methods: *The study involved 661 women aged 26-72 years (mean 46.23) with mild to moderate irregular uterine bleeding who agreed to have invasive investigations. Diagnostic hysteroscopy by panoramic fibrohysteroscope Pentax LH-150 II (5 mm in diameter) was performed initially to all patients, followed by classical dilatation and curettage (D & C).*

Results: *Different types of normal endometrium were found in 248 (37.52%) women, hyperplasia and polyposis in 300 (45.39%), suspected changes for atypia and neoplasia in 82 (12.40%) and other different findings in 31 (4.69%). Subsequent D & C showed lack of adequate material from the uterine cavity in 26 (3.93%) women, in 538 (81.39%) the morphological findings were due to hormonal and dyshormonal reasons, 66 (9.98%) were with different precancer and cancer lesions and in 31 (4.69%) cases, clinically and morphologically, bleeding was due to the presence of submucosal myomas, intrauterine devices, residua and pathology of the chorion.*

Conclusion: *The comparison of the hysteroscopy results with clinical and histological findings from D & C showed good diagnostic possibilities of the flexible hysteroscopy for evaluation of women with irregular bleeding (sensitivity 74.07% and specificity 90.61%). This examination is relatively simple, safe and requires simultaneous performance of a direct biopsy, in order to improve the accuracy of the results.*

Key words: diagnostic hysteroscopy, gynecological cancer, irregular uterine bleeding, uterine curettage

Introduction

One of the most common symptoms that make women seek gynaecological advice is abnormal uterine bleeding. Endometrial curettage introduced by Recamier in 1843, taking cytological material through various techniques and hysteroscopy are alternative options for evaluating the condition of the uterus [1].

The history of hysteroscopy, since the idea of Bozzini (1773-1809) through the first paper of Pantaleoni (1869) to the most modern endoscopic devices, is well known [2-4].

For more than 20 years, routine medical practice employs ever more often the method of diagnostic hysteroscopy. Potential roles for office hysteroscopy are: diagnosis of endometrial lesions, either benign or malignant; determination of the origin of an uterine lesion in the cervix vs. endometrium; and identification of possible extension of an endometrial lesion to the cervix or vice versa [5].

The basic indication for this procedure is abnormal uterine bleeding. Among women scheduled for hysteroscopy the frequency of abnormal bleeding ranges between 37.5 and 64.6% [6]. In this context, the use of diagnostic hysteroscopy along with endometrial biopsy is associated with significant increase in the diagnostic accuracy [7].

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The objective of this study was to analyze the possibilities of diagnostic flexible hysteroscopy in women with irregular uterine bleeding.

Patients and methods

The study involved 661 consecutive, nonselected women aged 26 -72 years (mean 46.23). Thirty-six (6.45%) of them were in reproductive age. Of the remaining 625 women 427 (64.4%) were premenopausal and 198 (29.95%) postmenopausal. All of them had mild to moderate irregular uterine bleeding and agreed to undergo invasive investigations.

Diagnostic hysteroscopy by panoramic fibrohysteroscope Pentax LH-150 II (5 mm in diameter) was performed to all patients under local or short term i.v. anesthesia, after or without cervical dilatation to Hegar 6.5, in liquid medium with N/S or DW5 solution.

For the purposes of the study the performed hysteroscopy was followed by classical D & C to take bioptic material and compare it with the endoscopic findings.

Neither technical difficulties nor early or late complications were encountered in carrying out both procedures.

Results

Due to the small number of women in the reproductive age group, the hysteroscopic and histological results for the two groups of women were analyzed together.

Results from hysteroscopic examination showed different types of normal endometrium in 248 (37.52%) women, hyperplasia and polyposis in 300 (45.39%) cases, suspected changes for atypia and neoplasia in 82 (12.40%) patients and other different findings in 31 (4.69%) cases: submucosal myomas (21), intrauterine devices (3), post-abortion residua (5) and hydatidiform mole (2) (Table 1).

Results from the subsequent D&C showed lack of adequate material from the uterine cavity in 26 (3.93%) women, in 538 (81.39%) the morphological findings were due to hormonal and dyshormonal reasons, 66 (9.98%) were with different precancer and cancer lesions and in 31 (4.69%) cases, clinically and morphologically, bleeding was due to the presence of submucosal myomas, intrauterine devices, residua and pathology of the chorion (Table 2).

The comparison of hysteroscopic results with the histological findings from the curettage of 635 women showed relatively good correlation between these two diagnostic examinations. The assessment of hysteroscopy to diagnose endometrial precancer and cancer lesions yielded the following results: 60 true positive cases, 21 false negative, 52 false positive and the rest 502 true negative, showing sensitivity of 74.07% and specificity of 90.61%.

Table 1. Results from hysteroscopic examination

Hysteroscopic findings	*Number of patients*	*%*
Normal	248	37.52
Hyperplasia & polyposis	300	45.39
Endometrial hyperplasia	227	34.34
Endometrial polyposis	73	11.04
Atypical & neoplastic	82	12.40
Atypical hyperplasia	69	10.44
Endometrial cancer	13	1.97
Other	31	4.69
Submucosal myomas	21	3.18
Intrauterine devices	3	0.45
Post-abortion residua	5	0.76
Hydatidiform mole	2	0.30
Total	661	100

Discussion

Hysteroscopy provides optical evaluation of the uterine cavity and most of the benign intrauterine le-

Table 2. Histological results from endometrial curettage

Histological findings	*Number of patients*	*%*
Lack of material	26	3.39
Normal endometrium	235	35.52
Functional phase endometrium	161	24.4
Anovulatory endometrium	41	6.2
Atrophic endometrium	33	4.9
Hyperplasia & polyposis	303	45.83
Cystic hyperplasia	215	32.5
Endometrial polyp	88	13.3
Atypical/ neoplastic	66	9.98
Atypical hyperplasia	51	7.7
Endometrial cancer	15	2.3
Other	31	4.69
Submucosal myomas	21	3.2
Intrauterine devices	3	0.5
Post-abortion residua	5	0.8
Hydatidiform mole	2	0.3
Total	661	100

sions could be diagnosed in an outpatient setting without anaesthesia or analgesia.

Hysteroscopy (Table 1) can detect the reason for irregular uterine bleeding in 48-66.5% of the cases [8,9]. Our results showed presence of endometrial polyps in 73 (11.04%) cases, submucosal myomas in 21 (3.2%), endometrial hyperplasia in 227 (34.34%), atypical hyperplasia in 69 (10.44%) and adenocarcinoma in 13 (1.97%).

Other authors reported similar results: 49.4% normal findings, endometrial polyps (21.5-31.6%), submucosal myoma nodules (11.4%), endometrial hyperplasia (22.9%), endometrial atrophy (1.62%) and adenocarcinoma (1.35-7.5%) [4,8,10].

Irregular uterine bleeding is due to different functional and morphological reasons. It is reported that in women with irregular bleeding during the climacteric period and menopause the lack of material from classical curettage is about 25%, the presence of endometrial hyperplasia ranges from 21 to 71.7%, of atypical hyperplasia from 0.8 to 35.5% and endometrial cancer up to 30% [11].

The reasons for irregular uterine bleeding are often combined and sometimes it is difficult to decide which of the reasons is behind a particular case. Parent et al. found that endometrial polyps are associated with myoma in 40% of cases and with endometrial carcinoma in 12% [11].

In a recent study hysteroscopy was more sensitive than curettage in detecting endometrial polyps and submucosal myomas, but less sensitive than curettage in detecting endometrial hyperplasia and endometrial carcinoma [12]. Similar are the results of other investigators, as the error in interpreting hysterograms is between 30-50%, and depends on the type of the lesion [6].

Parasnis and Parulekar reported that the specificity and positive predictive value of hysteroscopy is 100%. The sensitivity of hysteroscopy was greater (92%) compared to curettage (76%) and the negative predictive value of hysteroscopy was 2.8% [13]. Marchetti et al. evaluated hysteroscopy followed by endometrial biopsy and found a sensitivity of 93.10%, specificity of 99.96%, positive predictive value of 98.18%, and negative predictive value of 99.85% [14].

Correlations with other alternative diagnostic methods, such as transvaginal sonography and endometrial biopsy with Pipelle device, showed that the sensitivity of hysteroscopy to detect submucosal myomas and polyps could reach 100% and 99%, respectively, while sonography and endometrial biopsy could yield 74 and 34%, 24 and 10%, respectively [15]. Sonohysterography may be used to complement ultrasonography and to substitute hysteroscopy for the diagnosis of alterations that result in abnormal uterine bleeding. The sensitivity of sonohysterography and of hysteroscopy was 94% and that of ultrasonography 83%. The specificity of sonohysterography was 77%, of hysteroscopy 91% and of ultrasonography 69%. There were no significant differences in the sensitivity between the 3 methods. However, a significant difference was found between the specificity of ultrasonography and hysteroscopy. Sonohysterography demonstrated much greater capability than ultrasonography in identifying endometrial polyps [16].

The possible discrepancies may be due to the experience of the gynecologist to predict the degree of histological changes, e.g. cases of focal endometrial hyperplasia have been diagnosed hysteroscopically as various forms of polyposis [17]. It is reported that the positive predictive value of hysteroscopy in the diagnosis of endometrial hyperplasia was 63% and was higher in postmenopausal patients compared to women in the fertile age (72 vs. 58%) [18]. On the other hand, the evaluation "error" is related to the possibilities of the methods themselves. These are the cases when hysteroscopy finds a submucosal nodule, which is difficult to detect in the abrased histological material, as well as the potential of hysteroscopy to identify atypical hyperplasia.

In this context, the employment of diagnostic hysteroscopy is an option for evaluating women with irregular bleeding, especially when combined with target biopsy [12,19]. Recently, Kuzel et al. recommended performing endometrial target biopsy, resection of endometrial polyps up to 1.5 cm and pedunculated submucosal myomas up to 1 cm as well as resection of filmy intrauterine adhesions. The method of outpatient hysteroscopy is comfortable for well managed patients and practically complication-free [20].

In conclusion, the comparison of our hysteroscopic results with the histological findings taken by D & C showed good diagnostic possibilities of the flexible outpatient hysteroscopy for evaluation of women with irregular bleeding (sensitivity 74.07% and specificity 90.61%). This examination is relatively simple, safe and requires simultaneous performance of a direct biopsy, in order to improve the diagnostic accuracy.

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