Hysteroscopic findings of endometrial carcinoma. Evaluation of 104 cases

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Summary

Purpose of investigation: Retrospective evaluation of hysteroscopic findings in the accurate diagnosis of endometrial carcinoma.

Methods: A retrospective monocentric study from January 1995 to December 2004. One hundred and four patients with hysteroscopic aspects evocative of endometrial carcinoma confirmed by endometrial biopsy during diagnostic hysteroscopy, by surgical hysteroscopic resection pieces or by hysterectomy specimen were included.

Results: Among the 104 patients, diagnostic hysteroscopy pointed out endometrial features suggestive of endometrial carcinoma in 102 cases. In two women diagnostic hysteroscopy failed to diagnose endometrial malignancy which was identified on pieces of polyps by surgical hysteroscopic resection.

Discussion: Polypoid proliferations cerebroid in appearance, with ulceration and necrosis, friable and with irregular vessels, represent endometrial findings highly indicative of malignancy. The diagnosis may be missed in cases of focal neoplasias, within endometrial polyps or in conditions of unsatisfactory endouterine visualization.

Key words: Hysteroscopy; Endometrial carcinoma.

Introduction

Hysteroscopy with endometrial biopsy is used extensively today in the evaluation of common endouterine pathologies such as premenopausal abnormal bleeding and postmenopausal bleeding. In the last two decades this procedure has begun to replace dilation and curettage as the method of choice for the diagnosis of endometrial carcinoma [1]. Diagnostic hysteroscopy allows direct visualization of the uterine cavity and targeted biopsies of diffuse or focal abnormalities of the endometrium, is well-tolerated, and can be performed in the majority of women as an outpatient procedure with lower medical costs and no loss in diagnostic accuracy [2, 3]. Several reports in the literature have demonstrated that office hysteroscopy with endometrial sampling is highly accurate for evaluating endometrial adenocarcinoma and hyperplasia in premenopausal and postmenopausal women [4, 5]. Nevertheless, some authors have pointed out that the overall accuracy for the diagnosis of endometrial pathologies tends to be high for endometrial cancer (and only in postmenopausal patients), while it is lower for endometrial hyperplasias [1, 6]. However, some cases initially presenting as polyps or fibroids exist, in which, even after guided biopsy the diagnosis of a malignancy may be missed [7]. The purpose of this retrospective study has been to report our experience regarding features of certainty and pitfalls in the evaluation of hysteroscopic findings for an accurate diagnosis of endometrial malignancies.

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Materials and Methods

Between January 1, 1995 and December 31, 2004, 2,901 women were referred to our Department for diagnostic hysteroscopy. All procedures followed the ethical guidelines approved by the authorities of our University Hospital. Before hysteroscopy, each patient gave informed consent and a careful gynecologic examination was performed. In all patients, the procedure was usually carried out without anesthesia, except in cases of vaginal and/or cervical alterations compelling a paracervical block with 1% lidocaine or general anesthesia. The procedure was performed initially with a 4.5 mm and, subsequently, with a 3.0 mm, 30-degree rigid hysteroscope (Karl Storz, Tuttlingen, Germany), inserted and guided through the endocervical canal into the uterine cavity under visual control. The uterine cavity was distended with a low-flow, high pressure carbon dioxide insuflation system and the endouterine image was viewed on a high-resolution color monitor with videotape recording. In cases of bleeding or poor endouterine vision, the cavity was cleaned and expanded with a 0.9% NaCl solution. The uterine cavity and endometrial surface were inspected systematically, and endometrial findings were classified as normal, atrophic, focal pathology (benign or suspicious) or diffuse pathology (benign or suspicious). In cases with suspicion of malignancy, hysteroscopic assessment of the uterine cavity included: 1) site location of the neoplasia, 2) appearance of the neoplastic growth, 3) extent of neoplasia in the cavity, and 4) neoplastic spread to the endocervix. Endouterine smearing for cytologic examination with a special device (Endocyte, Laboratoire CCD, Paris, France) was performed at the end of the procedure and endometrial specimens with a Novak curette or by directed biopsy were taken whenever it was considered necessary. Cytologic and histologic examinations were performed by two associate investigators (F.A. and P.A.N., respectively) who were blinded to the hysteroscopic findings (atrophy, polyp, submucous leiomyoma, typical or atypical-hyperplasia, endometrial carcinoma) and cytologic and histologic results were compared with hysteroscopic findings.

Results

Among the 2,901 hysteroscopies performed, endometrial carcinoma was detected in 104 women (3.6%). The mean age was 66 years, ranging from 48 to 89 years. Seven patients were premenopausal and 97 were postmenopausal for an average of 17.5 years, ranging from two to 41 years. Mean parity was 2.4, ranging from 0 to 7. Abnormal uterine bleeding was the most common indication for hysteroscopic examination, occurring in 91 women (87.5%). Eighteen of these patients underwent transvaginal sonography before hysteroscopy. In the other 13 cases (12.5%) hysteroscopy was indicated by evidence of abnormal endouterine findings at transvaginal sonography, such as endometrial thickness, submucosal leiomyomas and polyps. Seven women underwent mammary surgery for breast cancer, and three were on treatment with tamoxifen as an adjuvant therapy. Only one patient had ever had hormone replacement therapy. In two cases it was necessary to perform hysteroscopy under general anesthesia because of endocervical conglutination and in another three cases after a paracervical block with 1% lidocaine owing to cervical stenosis and patient intolerance. Hysteroscopic findings considered suggestive of endometrial neoplasia were observed in 99 women (95.2%), whereas in three cases (2.9%) with diffuse, doubtful endometrial hyperplasia, the diagnosis of carcinoma was histological. In two postmenopausal patients (1.9%) however hysteroscopy failed to identify the malignancy which was revealed by histological examination as a focal lesion on pieces of endometrial polyps after operative hysteroscopy. As for the site of the neoplasia, it was fundic in 32 patients, proximal to tubal ostium in seven cases, in various other areas of the uterine cavity in 28 cases, and within the endometrial hyperplastic mucosa in 37 patients. Malignancy extent in the endometrial lining was 25% in 25 women, 50% in 28 cases, and 75% in 30 cases, while in 12 patients the cavity was quite colonized by the neoplastic tissue. Focal endometrial lesions were present in nine women. Hysteroscopic examination of the endocervix pointed out malignancy spread in only ten patients. Morphological features of the neoplastic growth showed a pedunculated growth pattern in 59 patients, usually described as 'papillary type' and 'polypoid type'. In 45 women hysteroscopy revealed a predominant sessile growth pattern of a 'nodular type'. Endometrial cytology was negative in 45 patients, doubtful in 21 women, and positive in the other 38 cases. Histologic examination pointed out the presence of an endometrioid carcinoma well-differentiated in 43 patients, moderately differentiated in 27 cases and undifferentiated in 31 cases. In three patients a mixed carcinosarcoma mullerian type was present.

Discussion

Dilation and curettage is an invasive and blind inpatient procedure and, furthermore, focal neoplasias or lesions localized in some sites, such as tubal recesses, may be over-looked. Hysteroscopy, on the contrary, is a clinically safe and reliable method to distinguish between normal and abnormal endometrium and in the diagnosis of endometrial carcinoma. It is also very important to confirm the presence, site location and extent of the neoplasia under direct visualization [8]. Nonetheless, evaluation of the morphologic hysteroscopic criteria is very important for the diagnosis of endometrial pathology as well as a comparison of the accuracy with the histologic examination [9, 10], thus endometrial sampling is recommended in all cases with unevenly shaped and thick endometrial mucosa, an anatomically distorted uterine cavity, or when endouterine visualization is unsatisfactory [5]. In our study, as suggested by several authors, the evaluation of hysteroscopic findings was made according to morphological features and growth patterns of the endometrial mucosa and endouterine proliferations (papillary or polypoid projections, nodular protrusions), their extent in the endometrial lining, endocervical spread, surface appearance, tissue consistency, and vascular findings [9, 11, 12]. The most recurrent hysteroscopic features suggestive of endometrial carcinoma were represented by the presence of endometrial polypoid proliferations grayish-white cerebroid-like in appearance, with surface ulceration and necrosis, elevated friability and bleeding, and irregular vessels. Hysteroscopic evaluation of these features revealed high accuracy in the diagnosis of endometrial carcinoma, equivalent to 98.1% with the inclusion of the three cases of doubtful hyperplasia. As for the two cases (1.9%) that were missed by the diagnostic procedure, the neoplasia was focal, localized within an endometrial polyp, and was entirely removed at hysteroscopic surgical resection: in fact, histological examination of hysterectomy specimens failed to demonstrate persistence of malignancy in these women. In conclusion, in our experience, the accuracy of hysteroscopy has been very satisfactory and adequate in diagnosing carcinoma. Certainly endometrial biopsy is very important for an accurate diagnosis of endometrial histopathology and staging of tumor, but nonetheless does not quite eliminate the possible risk of a malignancy that, as sometimes happens, may be discovered by hysteroscopic surgery or, directly within hysterectomy specimens [13, 14].

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