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## CLINICAL ARTICLE

## Endometrial polyp size and polyp hyperplasia

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## ABSTRACT

**Objective:** To assess the correlation between the size of endometrial polyps and the histopathologic diagnosis of hyperplasia or cancer. **Methods:** A retrospective study was conducted using databases of the outpatient clinic at Antonio Pedro University Hospital in Niterói, Brazil, and of a private hysteroscopy service. The analysis included 1136 asymptomatic patients with an endometrial polyp identified on hysteroscopy, with pathologic examination, during the period 1999–2012. The polyp size, the patients' age, the indication for hysteroscopic examination, and the use of hormone medication were compared with the finding of hyperplasia in the pathologic examination. **Results:** Only polyp size showed statistical significance among the variables analyzed ( $P < 0.05$ ). Endometrial polyps greater than 15 mm showed a hyperplasia rate of 14.8%, compared with 7.7% in the group with smaller polyps ( $P < 0.05$ ). **Conclusion:** Endometrial polyps measuring more than 15 mm were associated with hyperplasia.

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## 1. Introduction

Endometrial polyp is a benign disease that affects approximately 25% of women [1,2]. It comprises stroma, glands, and vessels. It is generally asymptomatic and is diagnosed in routine exams, but it may also be related to abnormal uterine bleeding, infertility, and premalignant or malignant endometrial lesions. Endometrial polyps are present in 13–50% of women with abnormal uterine bleeding [2,3]. The origin and pathogenesis of endometrial polyps are not well known, and some factors—such as advanced age, polyp size, and associated bleeding—might be related to progression to a malignant lesion. The prevalence of malignant lesions among endometrial polyps varies from 1% to 3% [2].

The broad use of ancillary tests, such as transvaginal ultrasound, in the gynecologic workup has increased the presumptive diagnosis of endometrial polyps in asymptomatic women [1,2]. The evidence is controversial regarding treatment of these lesions [1,2,4–6].

Although hysteroscopic polypectomy is safe, there is a trend in the literature [1,5,7] to support conservative treatment (watchful waiting) for 1 year if the polyp is smaller than 15 mm and the patient is asymptomatic and has no risk factors for malignancy. This is justified by the high rate of remission of small polyps, and there is virtually no progression to malignancy in such cases [2,8].

The risk factors for malignancy are high body mass index, arterial hypertension, advanced age, postmenopausal period, and use of tamoxifen [8–10]. Hypertension and diabetes mellitus, although being considered risk factors for endometrial carcinoma, were not associated with malignant transformation of endometrial polyps in several studies [11–13]. In

a survey of 766 patients with an endometrial polyp, Wang et al. [11] identified the following risk factors for malignancy: menopausal status, size of endometrial polyps larger than 1 cm, and presence of abnormal uterine bleeding. Hypertension, diabetes mellitus, body mass index, and use of tamoxifen were not associated with the malignant transformation of polyps. In a retrospective analysis of 394 patients with endometrial polyps [12], only age emerged as a risk factor for malignancy arising in endometrial polyps after multivariate logistic regression. Diabetes and hypertension were not associated with malignant transformation; polyp size was not included in the analysis.

Transvaginal ultrasonography is a method with high sensitivity and specificity in the diagnosis of endometrial polyps. The combination with color Doppler imaging increases the diagnostic capacity of the method, enabling the identification of a single feeding vessel, which is typical of endometrial polyps [14]. Several authors [15–18] have attempted to correlate power Doppler features with the histopathologic characteristics of hyperplasia or cancer associated with endometrial polyps. However, there was no association between the pulsatility index or resistive index and histopathologic findings. Thus, the Doppler study of endometrial polyps does not replace pathology, with biopsy being mandatory in cases of suspected malignancy [18].

The objective of the present study was to assess the correlation between endometrial polyp size and histopathologic diagnosis of hyperplasia or cancer in asymptomatic patients at menopause who had a diagnosis of endometrial polyp on hysteroscopy.

## 2. Materials and methods

A retrospective study of asymptomatic patients at menopause (age 15–52 years) with a hysteroscopic diagnosis of endometrial polyp was conducted. The data were retrieved from databases of the outpatient

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clinic at Antonio Pedro University Hospital (Federal Fluminense University) in Niterói, Brazil, and of a private hysteroscopy service (Ginendo Clinic) in Rio de Janeiro from January 1, 1999, to December 31, 2012. The initial study database contained information on 19 795 hysteroscopies of patients aged between 15 and 98 years (Fig. 1). Patients were excluded if they were older than 52 years, had any symptoms (abdominal pain, dysmenorrhea, abnormal uterine bleeding) at presentation, had reached menopause, had colposcycytological changes, or had no endometrial polyp identified upon hysteroscopy. After exclusions, 1720 examinations were available. Of these, 491 were excluded for not containing description on polyp size, and 93 were excluded because of absent or inconclusive pathologic reports. The final analysis included 1136 hysteroscopies.

The project was approved by the Research Ethics Committee of Antonio Pedro University Hospital/Federal Fluminense University. Informed consent was not needed because the study had a retrospective design and all patients had a formal hysteroscopy indication.

Patients with infertility were not excluded from the study. Although infertility is a formal indication for polypectomy, it is not considered to be a risk factor for endometrial polyp hyperplasia. Other indications for hysteroscopy included endometritis follow-up, intrauterine device removal, endocervical polyp at speculum examination, and hysteroscopic control after myomectomy.

The data collected from each patient included age, parity, last menstrual period, indication of hysteroscopy, complaint of the patient, use of medications, imaging exam findings, and histopathology (in case of biopsies or complete excision of the lesion). The size of the endometrial polyp was defined by hysteroscopy. In case of multiple polyps, the size of the polyp submitted to biopsy was used in the analysis. All hysteroscopies were performed at the outpatient clinic, with no analgesia, using a 2.9-mm scope with a 5-FR internal sheath for the operative channel and a liquid distension medium (saline solution). All biopsies were guided (performed under direct view) using a 5-FR forceps.

To facilitate data analysis, the women were divided into groups according to age (less than 30 years, 30–40 years, and over 40 years), polyp size (up to 15 mm and greater than 15 mm), and pathologic results (hyperplastic and non-hyperplastic polyps).

The  $\chi^2$  test was used as the statistical test, with  $P < 0.05$  considered to be statistically significant. The statistical software used was Stata 8.0 (StataCorp, College Station, TX, USA).

### 3. Results

A total of 1136 hysteroscopies were included in the study. Most patients (962 [84.7%]) were not taking hormone medication; 11 (1.0%) received tamoxifen as adjuvant treatment for breast cancer (Table 1). The disease most often associated with endometrial polyp and identified on hysteroscopy was endocervical polyp, present in 294 (25.9%) women. The main indication for undergoing hysteroscopy was an ultrasound finding of polyp or endometrial thickening ( $n = 732$  [64.4%]). The mean age of the participants was  $36.60 \pm 6.32$  years (range 21–52 years) and the mean polyp size was  $12.79 \pm 6.40$  mm (range 1–50 mm).

Of the 1136 endometrial polyps submitted to biopsy or excision at the outpatient clinic, 102 were classified as hyperplastic upon pathologic examination. The mean size of the hyperplastic polyps was  $15.05 \pm 6.39$  mm (range 5–35 mm), compared with 12.57 mm for the nonhyperplastic polyps. The mean age of women with a hyperplastic endometrial polyp was  $40.5 \pm 6.54$  years (range 22–52 years). Ten (9.8%) patients received hormonal contraceptives and none received tamoxifen.

Most endometrial polyps (926 [81.5%]) measured up to 15 mm and 210 (18.5%) were greater than 15 mm. Ultrasound was the main indication for hysteroscopy in women with larger polyps (Table 2). Among the women with a polyp up to 15 mm, infertility was a common indication for the hysteroscopy, but ultrasonography was the primary

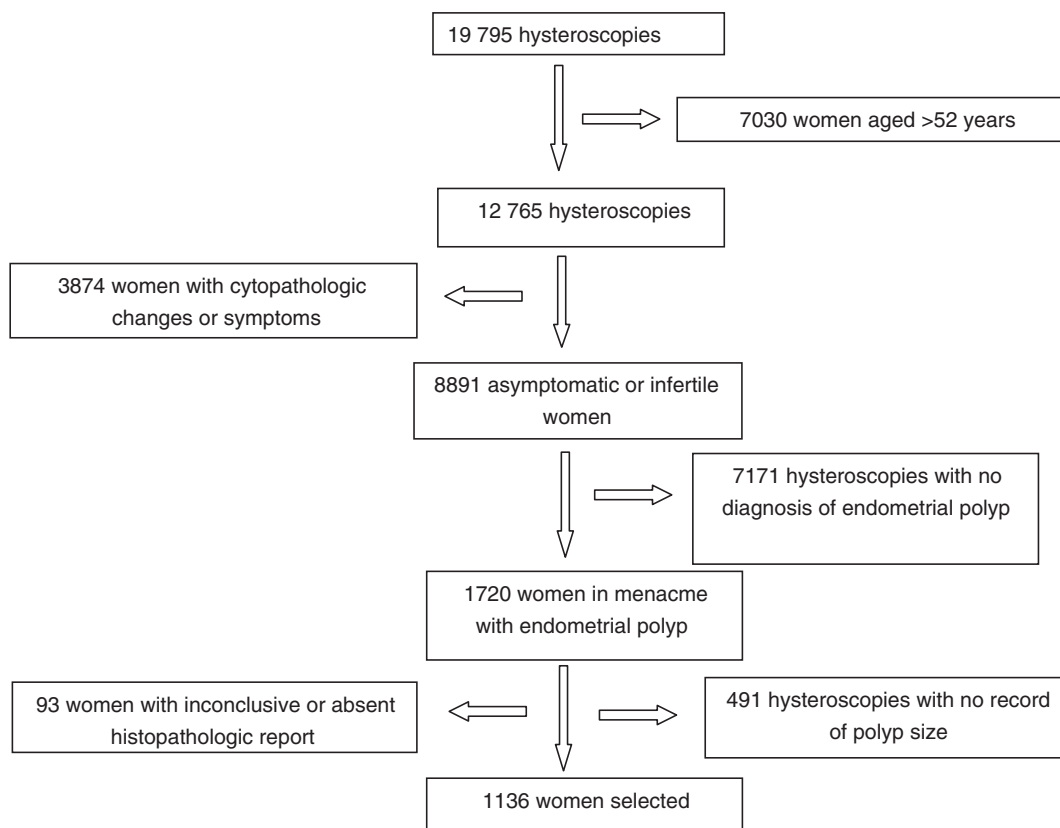


Fig. 1. Patient selection.

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