

Epidemiological-Clinical and Histopathological Profiles of Endometrial Polyps Observed at the Joseph Ravoahangy Andrianavalona University Hospital Center, Antananarivo, Madagascar

Herilalao Elisabeth Razafindrafara^{1*}, Fenhery Nalisoa Rakotondrainibe², Volahasina Francine Ranaivomanana³, Zinambatosoa Andrianina Andriambelo¹ and Nantenaina Soa Randrianjafisamindrakotroka⁴

¹Department of Pathology, Hospital Center of Soavinandriana (CENHOSOA), Antananarivo Madagascar.

²Department of Pathology, Anosiala University Hospital Center, Antananarivo, Madagascar.

³Department of Pathology, Joseph Ravoahangy Andrianavalona University Hospital, Antananarivo, Madagascar.

⁴Chairman of the Department of Pathology, Medical School of Antananarivo, Madagascar.

*Correspondence:

Herilalao Elisabeth Razafindrafara, Department of Pathology, Hospital Center of Soavinandriana, Antananarivo, Madagascar.

Received: 10 May 2026; Accepted: 15 Jun 2026; Published: 26 Jun 2026

Citation: Herilalao Elisabeth Razafindrafara, Fenhery Nalisoa Rakotondrainibe, Volahasina Francine Ranaivomanana, et al. Epidemiological-Clinical and Histopathological Profiles of Endometrial Polyps Observed at the Joseph Ravoahangy Andrianavalona University Hospital Center, Antananarivo, Madagascar. American J Pathol Res. 2026; 5(6): 1-5.

ABSTRACT

Background: Endometrial polyps are localized overgrowths of the endometrium composed of irregular endometrial glands, fibrous stroma, and thick-walled blood vessels. Although most lesions are benign, histological assessment remains essential to identify atypical hyperplasia or malignant transformation.

Methods: This was a retrospective descriptive study conducted over five years, from January 1, 2017 to December 31, 2021, including all histologically confirmed cases of endometrial polyps diagnosed at the Department of Pathology, Joseph Ravoahangy Andrianavalona University Hospital Center (CHU/JRA), Antananarivo.

Results: Fifty-four cases were included. The mean age was 45.8 ± 11.5 years, ranging from 23 to 66 years. Metrorrhagia was the main clinical presentation in 36 cases (66.7%). Postmenopausal women were predominant (70.4%). Associated lesions were found in 14.8% of cases, mainly leiomyoma. Biopsy-curettage was the most frequent sampling method (64.8%). Most polyps were ≥ 1.5 cm (83.3%) and solitary. Histologically, 94.4% were benign, 3.7% were pre-cancerous and 1.9% were malignant. Cytologic atypia was observed in 5.6% of cases.

Conclusion: Endometrial polyps in this series occurred mostly in peri- or postmenopausal women and were mainly revealed by metrorrhagia. Histological examination is crucial, as a small proportion of lesions may be pre-cancerous or malignant.

Keywords

Endometrial polyp, Histopathology, Madagascar, Menopause, Metrorrhagia.

Introduction

Endometrial polyp is a localized growth of the uterine lining, formed by endometrial glands of irregular size and shape, a more or less fibrous stroma, and thick-walled vessels. The classification of the World Health Organization reminds us that

these lesions are most often benign, but they can sometimes be associated with hyperplasia, atypia, or endometrial carcinoma [1]. Recent literature data highlight that endometrial polyps are a frequent cause of gynecological consultation, particularly in the perimenopausal and postmenopausal periods [2,3]. In the FIGO classification of abnormal uterine bleeding, the polyp corresponds to the "P" component of the PALM-COEIN system, alongside adenomyosis, leiomyoma, hyperplasia and malignancy among the structural causes [4,5]. Clinically, it can be asymptomatic, discovered incidentally on ultrasound or hysteroscopy, or present with metrorrhagia, menorrhagia, intermenstrual bleeding, postmenopausal bleeding, or, in certain contexts, infertility [6-8].

The diagnosis is based on the comparison of clinical data, imaging, hysteroscopy, and especially the histopathology examination. Management depends on age, menopausal status, symptoms, polyp size, risk factors for malignancy, and desire for fertility. Current recommendations place significant emphasis on diagnostic and operative hysteroscopy, which allows direct visualization of the uterine cavity and targeted excision of the lesion [2,3,7]. In Madagascar, published data on endometrial polyps remain limited. Studying local anatomical pathology series is therefore useful to better characterize the profile of patients, assess the proportion of precancerous or malignant lesions, and contribute to the improvement of the diagnostic pathway. The objective of this study was to describe the epidemiological, clinical, and histopathological profiles of endometrial polyps observed at the pathology Laboratory of Joseph Ravoahangy Andrianavalona University Hospital Center (CHU/JRA) in Antananarivo.

Materials and Methods

This is a descriptive retrospective study conducted at the Pathology Laboratory of the CHU/JRA in Antananarivo, over a five-year period from January 1, 2017, to December 31, 2021. The study population consisted of all cases of endometrial polyps confirmed by anatomopathological examination during the study period; unusable records were excluded. The data were collected from the registers of anatomopathological samples, examination request forms, and anatomopathological reports. The variables studied included age, hormonal status, clinical information, associated pathologies, type of sample, size, number and location of the polyp, as well as histological data, notably the histological type and the presence or absence of cyto-nuclear atypia. The data were entered and processed using Microsoft Excel 2013®; quantitative variables were expressed as mean, range, and standard deviation, while qualitative variables were presented as count and percentage. As the study was monocentric and based on laboratory data, the results cannot be extrapolated to the entire Malagasy population.

Results

Frequency

During the study period, 12870 histological examinations were performed at the Department of Pathology of CHU/JRA. 54 cases of endometrial polyps were recorded, representing 0.4% of all samples examined and 5.8% of gynecological samples.

Epidemiological and Clinical Characteristics

The age of the patients ranged from 23 to 66 years, with an average of 45.8 ± 11.5 years. The most represented age group was 50 to 60 years, corresponding to 29.6% of cases. Postmenopausal women accounted for 70.4% of the total. The main clinical information was metrorrhagia, observed in 66.7% of cases, followed by endometrial hypertrophy in 31.5% of cases. A mass delivered through the cervix was noted in 1.8% of cases (Table 1).

Table 1: Summary of the main epidemiological and clinical characteristics.

Variable	Number (n)	Percentage (%)
Total number of cases	54	100
Average age	$45,8 \pm 11,5$ years	—
Age group 50-60 years	16	29,6
Non-menopausal women	16	29,6
Menopausal women	38	70,4
Metrorrhagia	36	66,7
Endometrial hypertrophy	17	31,5
Mass through the cervix	1	1,8

Lesions associated with endometrial polyps were observed in 8 patients, representing 14.8% of cases. These included leiomyoma in 4 patients, adenomyosis (n = 3), and adenomyoma (n = 1) (Table 2).

Table 2: Distribution of associated lesions.

Associated lesions	Number (n)	Percentage (%)
Leiomyoma	4	50.0
Adenomyosis	3	37.5
Adenomyoma	1	12.5
Total	8	100

Types of sampling and macroscopic data

The most frequent type of sampling was biopsy-curettage, performed in 64.8% of cases. Total hysterectomy and subtotal hysterectomy accounted for 29.6% and 5.6% of cases, respectively. The majority of polyps were larger than or equal to 1.5 cm (83.3%), with an average size of 2.3 cm. Polyps were most often single (64.8%) and of firm consistency (68.5%). The location of the polyp was not specified in 77.8% of cases, whereas a fundal location was reported in 18.5% of cases (Table 3).

Table 3: Macroscopic data and types of sampling.

Anatomopathological Variable	Number (n)	Percentage (%)
Type of specimen		
• Biopsy-curettage	35	64.8
• Total hysterectomy	16	29.6
• Subtotal hysterectomy	3	5.6
Size		
• < 1 cm	4	7.4
• 1 to < 1.5 cm	5	9.3
• ≥ 1.5 cm	45	83.3
Number of polyp		
Single polyp	35	64.8
Imprecise	19	35.2

Location		
• Imprecise	44	81.5
• Uterine fundus	10	18.5

Histological data

The histological examination showed a clear predominance of benign polyps, in 94.4% of cases. Precancerous polyps, corresponding to polyps with atypical hyperplasia, accounted for 3.7% of cases. A malignant polyp, of the adenocarcinoma-on-polyp type, was observed in 1.9% of cases. Cyto-nuclear atypia was present in 5.6% of cases.

Table 4: Distribution of polyps according to histological results.

Histological results	Number (n)	Percentage (%)
Benign polyp	51	94.4
Precancerous polyp	2	3.7
Malignant polyp	1	1.9

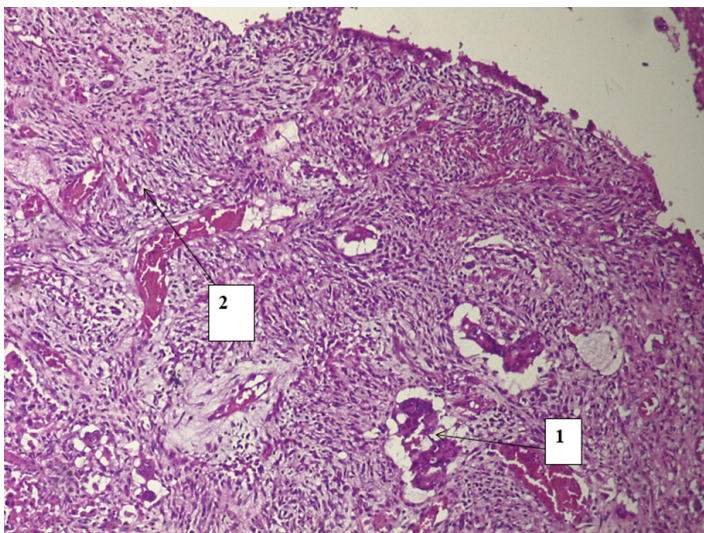


Figure 1: Total hysterectomy specimen. Adenocarcinoma on uterine polyp showing the proliferation of carcinomatous glands (1) with the connective stroma (2). HE x 200.

Source: Pathology Laboratory of CHU/JRA.

Discussion

In this series, endometrial polyps accounted for 5.8% of gynecological specimens examined at the CHU/JRA laboratory. This rate must be interpreted in context, as it represents a hospital-based and anatomopathological frequency, dependent on healthcare utilization, indications for sampling, accessibility to gynecological examinations, and the sending of specimens to the laboratory. The literature reports varying frequencies depending on the populations studied, diagnostic methods, and inclusion criteria. European and Asian studies have shown very different rates, ranging from low frequencies in certain hospital series to higher prevalences in populations assessed by ultrasound or hysteroscopy [9-11].

In Africa, data remain scarce; Moroccan and Malian studies also report a frequency influenced by hospital recruitment and access to histological diagnosis [12,13]. Recent data highlight the

same heterogeneity, particularly in clinical reviews concerning prevalence and management [14-16]. The average age in our study was 45.8 years, with a predominance of the 50-60 age group. This result is consistent with the pathophysiology of endometrial polyps, often observed in the perimenopausal or postmenopausal period. The predominance of postmenopausal women in this series (70.4%) aligns with data reporting an increase in polyp frequency with age and with hormonal changes related to menopause [2,7,8].

The menopausal transition period is accompanied by hormonal variations that can promote changes in the endometrium. However, polyps can also occur in younger women of childbearing age, particularly in the context of infertility, ovulatory disorders, or hormonal exposure.

Uterine bleeding was the main clinical finding in this study, found in 66.7% of cases. This predominance is expected, as endometrial polyps are a recognized structural cause of abnormal uterine bleeding according to the PALM-COEIN classification [4,5]. The bleeding can present as metrorrhagia, menorrhagia, intermenstrual spotting, or postmenopausal bleeding.

The literature confirms that abnormal uterine bleeding is the most frequent circumstance for the discovery of symptomatic polyps [6,7,17,18]. Nevertheless, a significant proportion of polyps remains asymptomatic and can be discovered incidentally during an ultrasound, hysteroscopy, or infertility evaluation [19,20].

Associated pathologies were present in 14.8% of patients, mainly leiomyoma. This association is relevant because polyps, adenomyosis, and leiomyomas belong to the structural causes of abnormal uterine bleeding in the PALM-COEIN classification [4,5]. Their coexistence can complicate the clinical interpretation of bleeding, as multiple lesions may simultaneously contribute to the symptoms. In practice, the identification of associated lesions justifies a thorough exploration of the uterine cavity and myometrium, particularly in postmenopausal patients or those presenting with persistent bleeding.

In this series, biopsy-curettage accounted for the majority of samples (64.8%). This method allows for obtaining material for histological examination, but it may be less effective than a targeted sampling when dealing with a focal lesion. Current recommendations and specialized reviews emphasize the interest of hysteroscopy, which allows direct visualization of the uterine cavity, localizing the lesion, assessing its appearance, and performing targeted polypectomy [2,3,21,22]. Operative hysteroscopy also has the advantage of reducing the risk of residual polypoid fragments compared to blind curettage. Broader use of hysteroscopy could therefore improve the quality of diagnosis and management, provided that the technical platform is available and the teams are trained [23,24].

According to the macroscopy aspect, the majority of polyps measured at least 1.5 cm, with an average size of 2.3 cm. The size

of polyps varies widely in the literature, from a few millimeters to several centimeters. Polyps were most often solitary and of firm consistency. These characteristics correspond to the usual appearance of benign endometrial polyps. The location was often not specified in the reports, which is an area for improvement. The systematic mention of the site, number, and size of the polyp is important, as this information can contribute to risk assessment, therapeutic planning, and scientific comparison of series.

The major result of this study is the predominance of benign polyps (94.4%), while precancerous and malignant polyps accounted for 3.7% and 1.9%, respectively. These results confirm that most endometrial polyps are benign, but the association with an atypical lesion or carcinomatous degeneration remains possible. Published studies report variable malignancy rates, influenced by age, menopausal status, the presence of bleeding, polyp size, tamoxifen exposure, obesity, hypertension, and diabetes [25-28]. Studies on the prediction of precancerous or malignant lesions emphasize the importance of identifying patients at risk in order to propose appropriate management [29-31].

Cytoneuclear atypia was observed in 5.6% of cases. Its identification is essential because it distinguishes benign lesions from precancerous and malignant lesions. Histologically, atypia can manifest as an increased nuclear-to-cytoplasmic ratio, irregular nuclear contours, loss of polarity, coarse chromatin, and prominent nucleoli. In all cases, especially in low-resource countries, histological examination remains an essential step, particularly since imaging and hysteroscopy do not always allow for the formal exclusion of an atypical lesion.

This study provides useful local data in a context where publications on endometrial polyps are rare. The results advocate for better standardization of pathology request forms, including age, menopausal status, symptoms, risk factors, hormonal treatment, history of tamoxifen treatment, gynecological history, ultrasound data, and the procedure performed. Such standardization would improve pathological interpretation and facilitate future studies. Management should remain multidisciplinary, involving gynecologists, radiologists, pathologists, surgeons, and general practitioners. Raising awareness among women about postmenopausal bleeding is also crucial, as any bleeding after menopause should lead to medical evaluation.

Conclusion

Endometrial polyps diagnosed at the Pathology Laboratory of CHU/JRA mainly involved women in the peri- or postmenopausal period. The main clinical presenting symptom was metrorrhagia. The polyps were generally large, solitary, and firm in consistency. Biopsy-curettage was the most frequent type of sampling, although current literature highlights the interest of hysteroscopy for targeted diagnosis and removal.

The vast majority of polyps were benign. However, the presence of precancerous polyps and malignant degeneration confirms that

any endometrial polyp, especially in a menopausal or symptomatic woman, requires thorough evaluation and histological confirmation.

This study, although not representative of all of Madagascar, constitutes an important local contribution and can serve as a basis for future multicentric studies.

References

1. Lokuhetty D, White VA, Watanabe R, et al. (editors). Female genital tumours. WHO Classification of Tumours. 5th ed. Lyon: International Agency for Research on Cancer. 2020.
2. Vitale SG, Haimovich S, Laganà AS, et al. Endometrial polyps: an evidence-based diagnosis and management guide. *Eur J Obstet Gynecol Reprod Biol.* 2021; 260: 70-77.
3. Bougie O, Randle E, Thurston J, et al. Guideline No. 447: Diagnosis and Management of Endometrial Polyps. *J Obstet Gynaecol Can.* 2024; 46: 102402.
4. Munro MG, Critchley HOD, Broder MS, et al. FIGO Working Group on Menstrual Disorders. FIGO classification system (PALM-COEIN) for causes of abnormal uterine bleeding in nongravid women of reproductive age. *Int J Gynaecol Obstet.* 2011; 113: 3-13.
5. Munro MG, Critchley HOD, Fraser IS, et al. The two FIGO systems for normal and abnormal uterine bleeding symptoms and classification of causes of abnormal uterine bleeding in the reproductive years: 2018 revisions. *Int J Gynaecol Obstet.* 2018; 143: 393-408.
6. Salim S, Won H, Nesbitt-Hawes E, et al. Diagnosis and management of endometrial polyps: a critical review of the literature. *J Minim Invasive Gynecol.* 2011; 18: 569-581.
7. Clark TJ, Stevenson H. Endometrial polyps and abnormal uterine bleeding (AUB-P): what is the relationship, how are they diagnosed and how are they treated?. *Best Pract Res Clin Obstet Gynaecol.* 2017; 40: 89-104.
8. Nijkang NP, Anderson L, Markham R, et al. Endometrial polyps: pathogenesis, sequelae and treatment. *SAGE Open Med.* 2019; 7: 2050312119848247.
9. Lim JWJ, Simpson A, Shirreff L. Endometrial polyps. *CMAJ.* 2024; 196: E265.
10. Dreisler E, Sorensen SS, Ibsen PH, et al. Prevalence of endometrial polyps and abnormal uterine bleeding in a Danish population aged 20-74 years. *Ultrasound Obstet Gynecol.* 2009; 33: 102-108.
11. Kanthi JM, Remadevi C, Sumathy S, et al. Clinical study of endometrial polyp and role of diagnostic hysteroscopy and blind avulsion of polyp. *J Clin Diagn Res.* 2016; 10: QC01-QC04.
12. Taghzouti H. Ultrasound, hysteroscopic, and histological comparison of intracavitary lesions during perimenopause [thesis]. Fes: Sidi Mohamed Ben Abdellah University. 2017.
13. Coulibaly A. Epidemiological and histopathological aspects of uterine body tumors in the Department of Pathological

-
- Anatomy and Cytology at the University Hospital of Point G [thesis]. Bamako: University of Sciences, Techniques and Technologies of Bamako. 2020.
14. Berceanu C, Cernea N, Căpitănescu RG, et al. Endometrial polyps. *Rom J Morphol Embryol.* 2022; 63: 323-334.
 15. Ruggiero O, Franchini M. Critical aspects of endometrial polyp clinical management: a narrative review. *Clin Exp Obstet Gynecol.* 2023; 50: 188.
 16. Villatoro AR, Sutil LA, Galvez DA, et al. Update on evidence-based clinical management of endometrial polyps. *Investig Clin Ginecol Obstet.* 2022; 49: 100734.
 17. Wong M, Crnobrnja B, Liberale V, et al. The natural history of endometrial polyps. *Hum Reprod.* 2017; 32: 340-345.
 18. Arici B, Cengiz H, Yaşar L, et al. The effects of the number, location, dimension and histopathological diagnosis of endometrial polyps on laboratory and clinical findings. *Gaziantep Med J.* 2012; 18: 90-94.
 19. DeWaay DJ, Syrop CH, Nygaard IE, et al. Natural history of uterine polyps and leiomyomata. *Obstet Gynecol.* 2002; 100: 3-7.
 20. Lieng M, Istre O, Sandvik L, et al. Prevalence, 1-year regression rate, and clinical significance of asymptomatic endometrial polyps: cross-sectional study. *J Minim Invasive Gynecol.* 2009; 16: 465-471.
 21. Tanos V, Berry KE, Seikkula J, et al. The management of polyps in female reproductive organs. *Int J Surg.* 2017; 43: 7-16.
 22. Di Spiezio Sardo A, Calagna G, Guida M, et al. Hysteroscopy and treatment of uterine polyps. *Best Pract Res Clin Obstet Gynaecol.* 2015; 29: 908-919.
 23. Yamakov K, Tinelli A, Malvasi A, et al. Endometrial polyps: clinicopathological features of malignancy and therapeutic attitude. *Akush Ginekol.* 2016; 55: 59-62.
 24. Luerti M, Vitagliano A, Di Spiezio Sardo A, et al. Effectiveness of hysteroscopic techniques for endometrial polyp removal: the Italian multicenter trial. *J Minim Invasive Gynecol.* 2019; 26: 1169-1176.
 25. Antunes A Jr, Costa-Paiva L, Arthuso M, et al. Endometrial polyps in pre- and postmenopausal women: factors associated with malignancy. *Maturitas.* 2007; 57: 415-421.
 26. Ferrazzi E, Zupi E, Leone FPG, et al. How often are endometrial polyps malignant in asymptomatic postmenopausal women? A multicenter study. *Am J Obstet Gynecol.* 2009; 200: 235.e1-6.
 27. Wethington SL, Herzog TJ, Burke WM, et al. Risk and predictors of malignancy in women with endometrial polyps. *Ann Surg Oncol.* 2011; 18: 3819-3823.
 28. Lee SC, Kaunitz AM, Sanchez-Ramos L, et al. The oncogenic potential of endometrial polyps: a systematic review and meta-analysis. *Obstet Gynecol.* 2010; 116: 1197-1205.
 29. Shor S, Pansky M, Maymon R, et al. Prediction of premalignant and malignant endometrial polyps by clinical and hysteroscopic features. *J Minim Invasive Gynecol.* 2019; 26: 1311-1315.
 30. Rahimi S, Marani C, Renzi C, et al. Endometrial polyps and the risk of atypical hyperplasia on biopsies of unremarkable endometrium: a study on 694 patients with benign endometrial polyps. *Int J Gynecol Pathol.* 2009; 28: 522-528.
 31. Topcu HO, Erkaya S, Guzel AI, et al. Risk factors for endometrial hyperplasia concomitant with endometrial polyps in pre- and post-menopausal women. *Asian Pac J Cancer Prev.* 2014; 15: 5423-5425.