

Research Article

Endometrial Tumors: Aspect Ultrasound, Histological Type, Management and Prognosis in the Gynaecology and Obstetrics Department of the Ignace Deen National Hospital

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Abstract

Background: Endometrial tumors are very common conditions and can be benign or malignant. These tumors generally occur during menopause. *The objective* was to calculate the frequency of endometrial tumors, describe their radiological characteristics, identify their histological types, describe the therapeutic approach, and evaluate their prognosis. *Method:* This was a retrospective, descriptive, and analytical study covering a five-year period from 1 January 2019 to 31 December 2023, focusing on the records of patients hospitalised during this period at the Ignace Deen Maternity Hospital. *Results:* Endometrial tumors accounted for 13.1% of gynaecological tumors in the department. Ultrasound was the most commonly requested examination (81.6%), followed by blood tests and endometrial biopsy, at 89.8% and 77.5% respectively. Pelvic CT scans and MRI scans were rarely requested. Ultrasound showed 53.1% endometrial thickening and 20.4% endometrial hypertrophy. After pathological examination of the biopsies, there were 31 cases (72.1%) of endometrial adenocarcinoma and 12 cases (27.9%) of endometrial hyperplasia. The histological types found were endometrioid adenocarcinoma in 28 cases (80%) and clear cell carcinoma in 8 cases (20%). Treatment was surgical, with 30.6% undergoing total hysterectomy and 57.2% undergoing extended colpohysterectomy with lymphadenectomy. During the period, we recorded 18.4% mortality. *Conclusion:* Most tumors were endometrioid adenocarcinomas and treatment was mainly surgical.

Keywords

Tumors, Adenocarcinomas, Hysterectomy, Ignace Deen National Hospital

1. Introduction

Endometrial tumors are very common conditions that can be benign or malignant. These tumors generally occur during menopause in around 75% of cases. The annual incidence of these tumors is estimated at 10.8 per 100,000 women worldwide [1]. They are most often adenocarcinomas of varying

frequency: it is the most common cancer of the female genital tract in Western countries. In North America, there were 30.8 cases per 100,000 inhabitants in 2012, and in Europe, there were 25.8 cases per 100,000 inhabitants. In France, endometrial cancer is the fourth leading cause of cancer in women and

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ranks second among gynaecological cancers after breast cancer, with 7,275 new cases in 2012. The lowest incidence is recorded in Africa, where it was 2.1 cases per 100,000 inhabitants in 2012 [2, 3]. It is the third most common cancer in women aged 45-74 in Tunisia [4].

The objectives of this study were:

- 1) To calculate the frequency of endometrial tumors,
- 2) Describe the ultrasound characteristics of endometrial tumors,
- 3) To identify their histological types,
- 4) To describe the therapeutic approach to endometrial tumors,
- 5) To evaluate the prognosis of patients treated for endometrial tumors.

2. Methodology

2.1. Type and Duration of the Study

This was a retrospective, descriptive, and analytical study covering a five-year period from 1 January 2019 to 31 December 2023. The study focused on the records of patients who had been hospitalised for endometrial tumors during this period at the Ignace Deenn Maternity Hospital.

2.2. Selection Criteria

2.2.1. Inclusion Criteria

All records of patients hospitalised and treated for endometrial tumors during the period were included.

2.2.2. Exclusion Criteria

Maltenus records and patients who had been diagnosed but not treated in the department were excluded.

2.2.3. Data Collection

Data was collected by extracting information from patient files, hospitalisation records, surgical protocols and questionnaires. This data was supplemented using the patients' telephone numbers listed in the files.

2.2.4. Sample Size

This was calculated using Lorenz's formula: $N = Z_{\alpha}^2 PQ / e^2$ (where: N = minimum sample size; Z_{α} = normal distribution value = 1.96 for $e = 0.05$)

P = prevalence of endometrial tumors = 4.9%; Q = 1 - P; e = precision level = 5%). This gave us a minimum sample size of 40 patient records.

2.2.5. Analysis and Presentation of Results

The data were entered using EPI INFO software version 6 and transferred to SPSS 21.0 software for analysis.

2.2.6. Ethical Considerations

Before conducting the study, we obtained approval from the administrative authorities of the department, and data extraction was carried out for strictly scientific purposes in confidence.

3. Results

Table 1. Frequency of gynaecological tumors.

Tumors	Number	Pourcentage %
Uterine fibroid	212	56.5%
Cervical neoplasia	68	18.1
Endometrial tumors	49	13.1
Ovarian tumors	36	10
Choriocarcinoma	8	2.1
Vaginal tumors	2	0.5
TOTAL	375	100

The results showed that tumor pathologies are very common in the department. In order of frequency, endometrial tumors rank third with 13.1%. The most common were uterine myomas followed by cervical neoplasia, accounting for 56.5% and 18.1% respectively; other tumors included choriocarcinomas and vaginal tumors, accounting for 2.1% and 0.5% respectively. This can be explained by the fact that the department is a last-resort referral service for the country's basic healthcare facilities (Table 1). Our sample therefore focused on 49 cases of endometrial tumors. The average age of the patients was 61 years. Most lived in polygamous households (80.9%). The average parity was 5.6, with extremes ranging from 0 to 12. The symptoms were dominated by postmenopausal metrorrhagia (93.9%).

Table 2. Parity.

Parity	Effectif	Pourcentage %
Nulliparous	5	10.2
Primiparous	4	8.2
Paucipara	7	14.3
Multipara	10	20.4
Grand multipara	23	46.9
Total	49	100

Average parity: 5.6; Median: 6; Extremes: 0 and 12

Nearly half of the patients were grand multiparous (47%) or multiparous (20.4%). The average parity was 5.6 with extremes of 0 and 12.

Table 3. Age at menopause.

Age Menopause (years)	Number	Percentage %
< 45	2	4.1
45 - 55	42	85.7
> 55	5	10.2
Total	49	100

Average age at menopause: 47 years; Median: 52 years; Extremes: 42 and 60 years.

The majority of patients (85.7%) had reached menopause between the ages of 45 and 55. The average age at menopause was 47, with extremes ranging from 42 to 60.

Table 4. Diagnostic assessment and exploration of the terrain.

Tests	Numbers	Percentage %
Pelvic ultrasound	40	81.6
Blood tests	44	89.8
Endometrial biopsy	38	77.5
Abdominal and pelvic scan	3	6.1
MRI scan	2	4.1
chest X-rays.	2	4.1

Tests were requested following the clinical examination. Among these tests, ultrasound was the most commonly requested (81.6%), followed by blood tests and endometrial biopsy, at 89.8% and 77.5% respectively. The other tests were requested to investigate the impact of the condition. These included pelvic CT scans, MRI scans and chest X-rays.

Table 5. Ultrasound examination results.

Ultrasound results	Number	Percentage %
Endometrial thickening	26	53.1
Endometrial hypertrophy	10	20.4
Suspicious endometrial tumors	7	14.3
Endocavitary myoma	3	6.1
Normal	3	6.1

Ultrasound results	Number	Percentage %
Total	49	100

The ultrasound results showed 53.1% endometrial thickening, 20.4% endometrial hypertrophy, and 14.3% suspicious endometrial tumors. In 6.1% of cases, there were endocavitary myomas, and the ultrasound appeared normal in 6.1% of cases.

Table 6. Histological types.

Histological types N=43	Number	Pourcentage %
Endometrial adenocarcinoma	31	72.1
Endometrial hyperplasia	12	27.9
Total	43	100

This pathological anatomy analysis was performed on 43 patients, and the results showed 31 cases of endometrial adenocarcinoma (72.1%) and 12 cases of endometrial hyperplasia (27.9%). It should be noted that for 6 cases, the results were not available in the files.

Table 7. Treatment modalities.

Therapeutic modalities	Number	Percentage %
Total hysterectomy	15	30.6
CHEL	28	57.2
Therapeutic abstention / comfort care	6	12.2
Analgesics	47	95.9
Antibiotic	46	93.9
Antianaemic agents	46	93.9
Transfusion	46	93.9
Solutions	44	89.8

Therapeutic modalities were dominated by surgical treatment, either total hysterectomy for cases of endometrial hyperplasia (30.6%) or extended colpohysterectomy with lymphadenectomy (57.2%) for cases of endometrial neoplasia. Other therapeutic approaches mainly consisted of medical treatment to correct anaemia, either through the use of anti-anaemic drugs or blood transfusions (93.9%) and the use of antibiotics or analgesics.

Table 8. Post-treatment complications.

Post-treatment complications	Number of patients	Percentage %
No complications	35	71.4
Anaemia	9	18.5
Surgical site infection	4	8.2
Vesico-vaginal fistula	1	2.1

Overall, the prognosis was favourable with few complications. The most common complications were anaemia (18.5%) and surgical site infection (8.2%). In addition, there was one case of vesico-vaginal fistula. Advanced stages received palliative care, as neither surgery nor radiotherapy or chemotherapy appeared to be the best options for improving the prognosis in these cases.

Table 9. Prognosis (5-year survival rate).

5-year survival	percentage
Confirmed by herself/Parents	68.8%
Deceased Confirmed/Parents	18.4%
Phone number unavailable	12.8

Table 10. Causes of death N=9.

Causes	Number	Pourcentage %
Decompensated anaemia	4	30.8
Complications/neoplastic/metastases	7	53.8
No diagnosis	1	7.7
Total	9	100

During the five-year period, based on the information we were able to gather using the telephone numbers listed in the patients' files, we recorded nine deaths, or 18.4%. However, in more than half of the cases (68.8%), the patient's survival was confirmed by the patient herself or by close relatives. Furthermore, in 12.8% of cases, we were unable to obtain any information because the telephone numbers listed in the files were unavailable. These results confirm the good prognosis for this condition if treatment is adequate and early. The diagnoses recorded in the files as causes of death were pelvic or hepatic metastases or anaemic shock. For one patient, there was no diagnosis of death recorded in the file.

4. Discussion

Frequency of gynaecological tumors:

During the study, it was found that endometrial tumors accounted for 13.1% of gynaecological tumors in the department.

This high frequency can be explained by the fact that the department is a last-resort referral service for basic healthcare facilities in our country. In a study conducted at the Treichville University Hospital in Abidjan on MRI aspects of pelvic masses in tropical environments, Estelle A. O. et al. found that uterine fibroids accounted for 57.2% of pelvic masses, followed by cervical cancer (30.1%) and endometrial cancer (10.2%) [5]. In Cameroon in 2014, Zacharie. S et al. reported respective frequencies of 49.5% for cervical cancer, 34% for breast cancer, 7.4% for ovarian cancer and 4.9% for endometrial cancer [6].

Diagnostic assessment and exploration of the area

Several tests were requested following the clinical examination. Among these tests, ultrasound was the most commonly requested (81.6%), followed by endometrial biopsy (77.5%). Endometrial biopsy remains the test of choice for diagnosing endometrial lesions, and the advent of hysteroscopic biopsy has significantly improved the sensitivity and simplicity of the procedure. However, it should be noted that hysteroscopic biopsy is not available in the department. Other tests were requested to explore the impact of the pathology. These included blood tests in 89.8% of cases and chest X-rays in 4.1% of cases. Other tests that are very expensive in our circumstances are rarely requested: CT scans (6.1%) and MRI scans (4.1%). In Cameroon, out of a sample of 118 endometrial biopsies, Zacharie S et al. found 77% endometrial hyperplasia, 14% endometrial cancer, and 6.8% inflammatory lesions [6]. In Senegal, DIOP A. D et al. found that despite limited access to MRI, this examination has become almost indispensable in the locoregional staging of endometrial cancers and in their post-therapeutic follow-up [7].

He ultrasound results showed 53.1.8% endometrial thickening, 20.4% endometrial hypertrophy, and 14.3% suspicious endometrial tumors. In Tunisia, Bouzid. I. A et al., evaluating the predictive value of ultrasound results to determine the nature of endometrial tumors, reported that 26.4% of tumors were malignant and 74.6% were benign, and that the endometrium was thicker in cases of malignant tumors (18.8 mm) vs. 12.5 mm; $p = 0.002$. [8]

Histological types

This pathological anatomy analysis was performed on 43 endometrial biopsies for suspected tumors, and the results showed 31 cases of adenocarcinoma (72.1%) and 12 cases of endometrial hyperplasia (27.9%). The most common type of adenocarcinoma was endometrioid adenocarcinoma (88.9%). It should be noted that for 6 cases, the results were not available in the files. In Cameroon, Zacharie S et al. reported that endometrial adenocarcinoma was the most common histological type [6]. In Gabon, in a study on the epidemio-

logical and histological aspects of endometrial cancers, Engohan-A et al. reported that the most common histological type was endometrioid adenocarcinoma (62%) and that 61.5% were poorly differentiated grade 3 cancers [9]. In Burkina Faso, Ouadraogo et al. found that histopathologically, adenocarcinoma was predominant (67%), followed by squamous cell carcinoma (12%) [10]. In a study conducted by Wentz and Sherman on endometrial hyperplasia, the authors analysed more than 10,000 endometrial biopsy specimens and found 10.3% of endometrial hyperplasia [11].

FIGO classification

The FIGO classification has shown that diagnosis is usually late. More than half (62.5%) were diagnosed at stage IIA, 27.5% at stage IIIA, and 5% at stage IV. These late stages reduce the chances of survival of patients with a condition that has a good prognosis if treated early. Identical results were reported in Côte d'Ivoire by Estelle A. O et al., where cervical and endometrial cancers were found in 66.8% of cases at FIGO stage IV and in 26.5% of cases at stage III [5]. In Tunisia, Doghri. R et al. found earlier admissions compared to our results, with 42% of patients admitted at stage IA, 14% at stage IB, 16% at stage II, 18% at stage III and only 10% at stage IV [4].

Therapeutic modalities

Therapeutic modalities were dominated by surgical treatment, either total hysterectomy for cases of endometrial hyperplasia (30.6%) or extended colpohysterectomy with lymphadenectomy (57.2%) for cases of endometrial neoplasia. Other therapeutic approaches mainly consisted of medical treatment to correct anaemia, either through the use of anti-anaemic drugs or blood transfusions (93.9%). It should be noted that radiotherapy is not available under our conditions. In France, in a study on radiotherapy for cervical and endometrial cancer, Barillota. I et al. report that for all patients who undergo surgery, external radiotherapy will be administered after surgery in the following cases:

- 1) stage Ib type 1 adenocarcinoma, grade 3 and/or with neoplastic emboli;
- 2) Type 1 adenocarcinoma in stages II and III, regardless of grade;
- 3) Type 2 adenocarcinoma, regardless of stage.

And that radiotherapy followed by uterine vaginal brachytherapy is reserved for patients with a contraindication to surgery or locally advanced disease [12].

Post-treatment complications

Overall, the prognosis was favourable with few complications, the most common being anaemia (10.2%) and surgical site infection (4.1%). In addition, there was one case of vesico-vaginal fistula. Advanced stages received palliative care, as neither surgery nor radiotherapy or chemotherapy appeared to be the best options for improving the prognosis in these cases.

Prognosis

During the five-year period, and based on the information we were able to gather using the telephone numbers listed in

the patients' files, we noted an overall survival rate of 68.2% and recorded nine deaths, or 18.4%. In most cases, the patient's survival was confirmed by the patient herself or by close relatives.

Furthermore, in 12.2% of cases, we were unable to obtain any information because the telephone numbers listed in the files were unavailable. These results confirm the good prognosis for this condition if treatment is adequate and early. In France, Catherine G et al. found a 5-year relative survival rate of 84.5% for all stages and types combined, with an average age at diagnosis of 68 years [13]. An almost identical 5-year survival rate of 81% was reported in Tunisia by Doghri. R et al [4]. However, in a multicentre study on endometrial cancer, Germanova. A et al found that this survival rate was 52.8% [14].

Mortality

The diagnoses recorded in the files as causes of death were pelvic or hepatic metastases or anaemic shock. For one patient, there was no diagnosis of death recorded in the file.

5. Conclusion

The results showed that tumor pathologies are very common in the Gynaecology and Obstetrics Department of the National I Deen Hospital. In order of frequency, endometrial tumors rank third among gynaecological tumors in the department. Ultrasound was the most commonly requested paraclinical examination. The most common histological type was endometrial adenocarcinoma. Most diagnoses were made at late stages. Treatment modalities were dominated by surgical treatment and resuscitation measures. Overall, the prognosis was good with few complications. Mortality was 18.4%. To reduce morbidity and mortality associated with endometrial tumors, awareness strategies focusing on the importance of early diagnosis must be implemented to ensure appropriate management.

Abbreviations

FSTS	Faculty of Health Sciences and Technology
UGANC	Gamal Abdel Nasser University,
APS	Abdominal and Pelvic Scan
MRI	Magnetic Resonance Imaging
IC	Confidence Interval
SPSS	Statistical Package for the Social Sciences
chest X-rays	Pulmonary Radiography
CHEL	Colpohysterectomy with Lymphadenectomy

Authors Contributions

Diallo Boubacar Alpha: Conceptualization, Methodology, Project administration

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Sow Ibrahima Sory: Formal Analysis, Writing – review & editing

Conte Ibrahima: Formal Analysis, Methodology, Supervision

Bah Elhadj Mamoudou: Data curation, Methodology, Writing – original draft

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Conflicts of Interest

The authors declare no conflicts of interest.

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