



Original Research

Frequency and Pattern of Intrauterine Hysteroscopic Lesions among Women Coming for IVF in the City of Yaoundé

Fréquence et profil des lésions hystéroscopiques intra-utérines chez les patientes d'une unité de FIV à Yaoundé

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ABSTRACT

Background: Hysteroscopy is an essential tool to make intrauterine assessment in infertile patients. Diagnosis and appropriate correction of intrauterine anomalies are considered essential in order to increase chances of conception. Our objective was to determine the frequency and pattern of intra uterine anomalies identified among women attending hysteroscopy at the Gynaecological Endoscopic Surgery and Human Reproduction Teaching Hospital Paul et Chantal Biya – Yaoundé (GESHRTH). **Methods and results.** This was a cross sectional retrospective study of 96 women attending diagnostic or operative hysteroscopy at the GESHRTH between January 2020 and December 2021. The mean age was 38.7 ± 7.6 years. Fifty-nine (61.5%) of the patients were nulliparous. Primary and secondary infertility were found respectively in fifty-two patients (54.2%) and forty-four patients (45.4%). Eleven patients (11.5%) were post-menopausal. Concerning previous surgery, 29 patients (30.2%) have had a myomectomy, 28 patients (29.1%) curettage, 16 patients (16.6%) laparoscopy, eight (8.3%) hysteroscopy and one (1%) caesarean section. In all, 92 patients (95.8%) had abnormal intra uterine findings consisting of endometrial polyps (43.7%), sub-mucosal fibroids (42.7%), uterine cavity adhesions (20.8%), endometrial atrophy (4.1%), foetal bone (2%), uterine septum (1%) and non-absorbable suture thread (1%). **Conclusion:** Abnormal uterine findings were identified in 95.8% of patients attending hysteroscopy at GESHRTH. Most frequent findings were polyps in 43.7%, sub-mucosal fibroids in 42.7% and synechiae in 20.8%. The overall per operatory complication rate was 6.2%.

RÉSUMÉ

Introduction. Le recours à l'hystérocopie constitue une étape indispensable au bilan cavitaire des patientes infertiles. Le diagnostic et la prise en charge adéquate des lésions intra cavitaires permettent d'améliorer les chances de conception. L'objectif de cette étude était de déterminer la fréquence et les caractéristiques des anomalies intra cavitaires chez les patientes opérées d'une hystérocopie au Centre Hospitalier de Recherche et d'Application en Chirurgie Endoscopique et Reproduction Humaine Paul et Chantal Biya – Yaoundé (CHRACERH). **Méthodes et résultats.** Nous avons mené une étude descriptive transversale de Janvier 2020 à Décembre 2021 et recruté 96 patientes. L'âge moyen était de 38,7 ± 7,6 ans. Soixante-neuf patientes (61,5%) étaient nullipares. Cinquante-deux (54,2%) et quarante-quatre (45,5%) présentaient une infertilité primaire et secondaire respectivement. Onze patientes (11,5%) étaient ménopausées. Concernant les antécédents chirurgicaux, nous avons identifié une myomectomie chez 29 patientes (30,2%), un curetage utérin chez 28 (29,1%), une cœlioscopie chez 16 (16,6%), une hystérocopie chez huit (8,3%) et une césarienne chez une (1%). Au total, 92 (95,8%) des patientes avaient des anomalies cavitaires objectivées. Il s'agissait de polypes endométriaux (43,7%), fibromes sous-muqueux (42,7%), synéchies utérines (20,8%), atrophie de l'endomètre (4,1%), métaplasie osseuse (2%), cloison utérine (1%) et corps étranger à type de fil de suture non résorbable (1%). **Conclusion.** Les anomalies intra-cavitaires étaient retrouvées chez 95,8% des patientes réalisant une hystérocopie au CHRACERH. Les anomalies les plus représentées étaient les polypes endométriaux (43,7%), les fibromes sous-muqueux (42,7%) et les synéchies utérines (20,8%). Le taux global de complications opératoires était de 6,2%.

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Mots-clés: Hystérocopie, Fibrome, Polype, Cameroun.

HIGHLIGHTS**What is already known on this topic**

Diagnosis and appropriate correction of intrauterine anomalies are considered essential in order to increase chances of conception in case of IVF and hysteroscopy is the main tool at this effect. However, few data are available for Cameroon

What question this study addressed

Frequency and pattern of intrauterine hysteroscopic lesions among women coming for IVF in the city of Yaounde

What this study adds to our knowledge

The most frequent findings are polyps, sub-mucosal fibroids and synechia. The treatment is effective and the overall per operator complication rate is low

How this is relevant to practice, policy or further research.

Hysteroscopy is an effective and safe option for the treatment of these lesions.

INTRODUCTION

Hysteroscopy is a direct visual inspection of the cervical canal and uterine cavity through a telescope, nowadays widely used in gynaecologic practice. It has become the gold standard for evaluating the uterine cavity for anomalies [1]. New technological developments in the fields of both diagnostic and operative hysteroscopy provide a better approach to female infertility. Resectoscopic polypectomy and myomectomy bear several advantages such as reduced uterine trauma, shorter hospitalization period, decreased risk of postoperative adhesion formation and acceptable level of satisfaction. However, it may be associated with serious complications such as venous air embolism, female transurethral resection of prostrate syndrome, fluid overload, uterine perforation and bleeding [2].

The objective of this study was to determine the distribution and characteristics of pathological intrauterine anomalies during hysteroscopy among women attending an in-vitro fertilization facility (IVF) in Yaoundé Cameroon.

METHODS

This cross-sectional, retrospective study was conducted at the Gynaecological Endoscopic Surgery and Human Reproduction Teaching Hospital Paul et Chantal Biya – Yaoundé (GESHRTH) during a two – years period (January 2020 to December 2021). This fertility centre is a public facility addressing male and female infertility and IVF.

All the files of patients who underwent a diagnostic or operative hysteroscopy were analysed. Hysteroscopies were done in the operating room, during the follicular phase of the cycle. Patients were mainly under spinal anaesthesia. Diagnostic hysteroscopy was performed with a rigid telescope Bettocchi (5 mm 30° continuous flow; Karl Storz Endoscopy, Utrecht, Netherlands). Most of therapeutic procedures were done with a resectoscope consisting of working element, electrode, inner sheath and outer sheath (10 mm 30°, Karl Storz Endoscopy, Utrecht,

Netherlands). Distension medium was normal saline instilled at a controlled pressure 100-150 mmHg.

Data were analyzed using Sphinx Millennium 4.5. Since the study was retrospective and anonymous, we avoided the use of identification information and obtained consent from participants and health facility authorities.

RESULTS

We identified 113 files and retained 96. Incomplete files was the reason advocated to exclude 17 files.

The mean age of the patients was 38.7±7.6 years (Min 22 years – Max 61 years).

Social and clinical characteristics of the patients are shown in Table I. Regarding the parity, 59 patients (61.5%) were nulliparous. 64 patients (66.6%) were workers. A past history of myomectomy by laparotomy was found in 29 patients (30.2%), while a past history of hysteroscopy was recorded in eight patients (8.3%). All the patients consulted for infertility. Dysmenorrhea and menorrhagia were respectively found in eight cases (8.3%) and six cases (6.2%). In 11 cases (11.5%), the procedure was performed in postmenopausal patients. The most common surgical indications were endometrial polyp in 58 cases (60.4%), fibroid in 49 cases (51%) and synechia or uterine adhesion in 17 cases (17.7%).

Table I: Social and clinical features of the study population (n=96)

Variables		N	%
Marital status	Single	20	20.8
	Married	75	78
	Widow	1	1
Parity	Nulliparous	59	61.5
	Primiparous	24	25
	Multiparous	13	13.5
Occupation	Housewife	22	23
	Student	10	10.4
	Civil servant	34	35.4
	Other occupations	30	31.2
Surgical past history	Myomectomy	29	30.2
	Curettag	28	29.1
	Laparoscopy	16	16.6
	Hysteroscopy	8	8.3
	Cesarean section	1	1
Clinical presentation	Post menopausal	11	11.5
	Primary infertility	52	54.2
	Secondary infertility	44	45.8
	Dysmenorrhea	8	8.3
	Menorrhagia	6	6.2
	Amenorrhea	4	4.1
	Oligo-menorrhoea	2	2
Indications	Polyp	58	60.4
	Fibroid	49	51
	Uterine adhesion	17	17.7
	Pre IVF assessment	5	5.2
	Calcifications	1	1
	Mullerian duct anomalies	1	1

The investigations carried out by the patients are shown in Figure 1. All patients underwent a pelvic ultrasound. Hysterosonography was performed in 68 patients (70.8%), hysterosalpingography in 39 patients (40.6%) and pelvic MRI in one patient (1%).

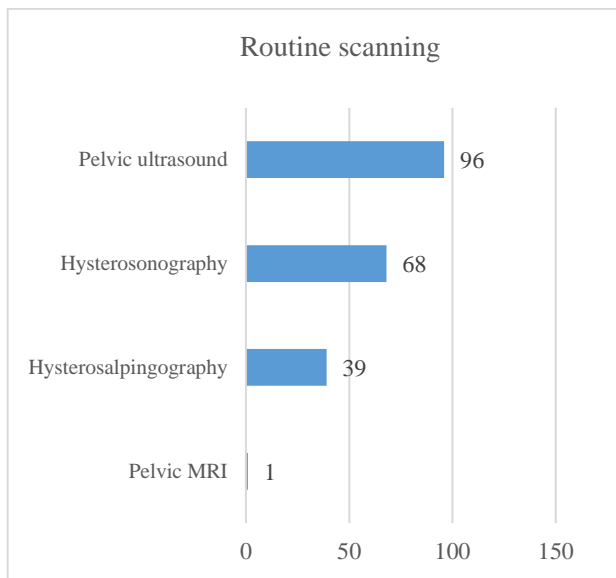


Fig 1: Routine scanning done by the patients

Per operative findings and complications are summarized in Table II. In 4 cases (4.2%), no uterine abnormalities were found during hysteroscopy. When abnormalities were visualized, they consisted of polyps in 42 cases (43.7%), sub-mucosal fibroids in 41 cases (42.7%) and synechiae in 20 cases (20.8%). We also identified bone fragments in two cases (2%) and one case of foreign body such as post myomectomy non-absorbable suture thread.

Variables	N	%		
Per operative findings	No pathology detected	4	4.2	
	Polyps	Single polyp	18	18.7
		Multiple polyps	24	25
	Sub-mucosal fibroids	Type 0	20	20.8
		Type 1	12	12.5
		Type 2	9	9.4
	Uterine adhesions	20	20.8	
	Mild	13	13.6	
	Moderate	5	5.2	
	Severe	2	2	
	Endometrial atrophy	4	4.1	
	Bone fragment	2	2	
Uterine septum	1	1		
Foreign body (suture thread)	1	1		
Complications	Hemorrhage	3	3.1	
	Infection	2	2	
	Uterine perforation	1	1	

The overall complication rate was 6.2%. It was a hemorrhage by cervical laceration in three cases (3.1%), endometritis in two cases (2%) and uterine perforation in one case (1%) of cases. The evolution was unremarkable in all cases.

DISCUSSION

The use of hysteroscopy is a common practice in infertile patients [3,4]. The average age of the patients in our population was 38.7 ±7.6 years; besides 61.5% were nulliparous. In a similar study, Noa et al found similar figures with an average age of 39.3 years and nulliparous proportion of 67.3% [5]. Ray-Offor described in Nigeria an average age of 40.7±5.9 years [6]. Al-Husban in Jordan noted an average age of 42.4 years [7], an average parity of 3.01 and a nulliparous proportion of 27.8%. Mettler [8] in Germany reported an average age of 47.8 years. Our hospital is dedicated to the management of infertility. This explains the young age of the patients in our series compared to others.

Noa reported a history of curettage, myomectomy and hysteroscopy respectively in 35.5%, 23.7% and 5.4% of cases [5]. We found the same surgeries in different proportions. There were myomectomy (30.8%), curettage (29.1%) and hysteroscopy (8.3%). Postmenopausal women represented 11.5% of patients.

Concerning clinical manifestations, infertility was present in all our patients. It was primary infertility in 54.2% cases and secondary in 45.8% cases. In addition, pain and menorrhagia were reported in 8.3% and 6.2%.

The indication for hysteroscopy was polyp in 60.4%, sub-mucosal fibroid in 51% and synechia in 17.7%. The presence of endometrial calcifications and the suspicion of uterine malformation was an indication for surgery in 1% of case each. In order to make the diagnosis, the investigation modalities were pelvic ultrasound in all patients, hysterosonography (70.8%) and hysterosalpingogram in 40.6%. We reported the use of an MRI in one case. Noa reported the presence of polyps (57.3%), followed by fibroids (40%) and synechiae (16.4%) as indications of hysteroscopy [5]. Al-Husban noted menorrhagia in 63.3% followed by repeated abortion in 10% and infertility in 7.7% [7]. Mettler reported abnormal uterine bleeding as the dominant indication of hysteroscopy [8].

During the surgery, we identified the presence of polyps in 43% cases. It was a single polyp in 18.7% and multiple polyps in 25%. FIGO-0 fibroids accounted to 20.8%; FIGO-1 fibroids to 12.5% and FIGO-2 fibroids to 9.4%. According to Ray-Offor, per operative findings were dominated by submucosal fibroids (31.3%), polyps (22.5%) and synechiae (22.5%) [6]. The same findings were made by Noa with polyps (52.7%), fibroids (31.8%) and uterine synechia (21.8%) [5]. Abayomi et al noted the presence of synechia in 40.7%, fibroids in 22.6% and polyps in 22.1%. The same authors noted increased frequency of submucosal fibroids and synechiae in obese patients [9]. According to Al-Husban, the procedure consisted of fibroid resection in 34.4% [7]. Ray-Offor reported hysteroscopic fibroid resection in 25%, synechia cure in 24.2% and polyp removal in 12.9% [6]. Fibroids,

polyps, synechiae and uterine malformations are the most common causes of infertility due to uterine abnormalities [4]. Studies have shown an improvement in fertility after the treatment of these uterine abnormalities [11-14].

We noted an overall complication rate of 6.2%. There were minor complications mostly related to cervical dilatation prior to the use of resectoscope. Al-Husban also reports 2 cases or 2.2% of massive fluid absorption syndrome with hyponatremia [7]. Ray-Offor reported one case of uterine perforation and one case of severe cervical stenosis [6]. Noa reported an operative complication rate of 3.6%, including synechia in 1.8%, infection in 0.9% and bleeding in 0.9% [5].

CONCLUSION

Uterine polyps, sub-mucosal fibroids and synechiae are the most frequent anomalies found in women investigated by hysteroscopy in Yaoundé (GESHRTH). The mean age of patients is 38.7 ± 7.6 years. Hysteroscopy is an effective and safe option for the treatment of such abnormalities.

DECLARATIONS

Interest disclosure

The authors declare that there is no conflict of interest regarding the publication of this paper.

Author's contributions

Nyada Serge, Mpono E. Pascale, Ngonon A Vanina, and Kasia O Yves, Mendibi Sandrine: conception, design, acquisition of data, analysis, drafting and revision of the article, Belinga Etienne, Noa Ndoua Claude and Kasia Jean Marie: conception, design, analysis, interpretation and revision of the article.

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