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Review

The management of polyps in female reproductive organs



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HIGHLIGHTS

- Polyps of the lower reproductive tract are found in 7.8–50% of women.
- Trans vaginal ultrasound is an excellent diagnostic technique to diagnose the size and the location of endometrial polyps.
- TVU and hysteroscopy give accurate diagnosis and effective treatment of polyps with low recurrence or complications.
- Endometrial Polyps have the lowest incidence of malignant transformation compared to other body systems.

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ABSTRACT

Polyps of the lower reproductive tract are found in 7.8–50% of women. It has been hypothesized that cytogenetic modifications on chromosomes 6, 7 and 12 as well as epigenetic factors involving enzyme and metabolic activities may cause polyps to develop. Cervical polyps found in 2–5% of cases are of low clinical significance and can cause, although rarely, post coital bleedings. Cervical polyps grow during pregnancy and mucorrhoea. Trans vaginal ultrasound (TVU) provides an excellent diagnostic technique to diagnose the size and the anatomic location of endometrial polyps (EPs). In asymptomatic young woman with small EPs <10 mm in size, conservative management can be safely followed by monitoring the polyp growth. EPs located at the fundal and tubocornual regions mechanically affect fertility and disturb normal cellular function due to chronic inflammation. In cases where Eps are a cause of subfertility mechanical hysteroscopic resection is advisable. When the sole reason for infertility is an EP, the patient often becomes spontaneously pregnant shortly after removal. EP Detection in either peri- or post-menopausal age, in symptomatic or asymptomatic patients calls for meticulous hysteroscopic examination and polypectomy is mandatory. Endometrial curettage is also recommended to rule out sub clinical endometrial hyperplasia or cancer. Hysteroscopic surgery for large EPs using bipolar resectoscopes, hysteroscopic morcellators or shavers are considered equally efficient and safe under general anaesthesia.

Recurrence rate of EPs after resection is unknown. The recent advances in TVU and hysteroscopy, however, should provide an accurate diagnosis and effective treatment of polyp in the female reproductive tract with minimal recurrence or surgery complications. The significantly increased incidence of colorectal polyps in cohorts that also had EPs might indicate that patients with EPs should be also referred for colonoscopy. EPs have the lowest incidence of malignant transformation as compared to colon, urinary bladder, oropharyngeal, nasal and laryngeal carcinomas.

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1. Definition of polyp

The word "polyp" arises from the ancient Greek word "polypus" meaning "many feet". The definition mainly describes its external characteristics rather than its histopathological features. Within this context any lesion or abnormal formation that looks like a polyp can be referred to as a polypoid structure.

Polyps can arise from any mucus membrane in the body, and they are usually benign [1]. Gynaecological polyps are categorized based on their location, type, and presence/absence of a stalk [1]. According to Uglietti et al. postmenopausal women are at higher risk of having malignant EPs compared to premenopausal women [2]. In addition, it was also found that the younger the woman's age, the less likely she is to develop a malignant polyp.

2. Epidemiological factors, frequency

The exact epidemiology of gynaecological polyps remains unclear. The incidence of polypoid development is difficult to estimate. These structures may grow in the uterus, cervix, and rarely in the vagina. Additionally, the polyps may vary widely in exact localization within these tissues. In previous years the ability to locate and diagnose polyps was limited by technology, as well as the fact that they were asymptomatic in many cases. It is not uncommon for asymptomatic polyps to be first discovered in a routine physical examination or during investigations of infertility. The developments of high-resolution 2D and 4D ultrasound, contrast (HyCoSy/HyFoSy) sonography and hysteroscopy are aiding clinicians in diagnosing more cases of polyps [3].

2.1. Endometrial polyps (EPs)

EPs are the most frequently diagnosed type of gynaecological polyp, with prevalence reports ranging from 7.8%–50% [3,4]. According to Clark et al. [5] the prevalence of EPs in a population with no abnormal bleeding is estimated to be 10%. However, the prevalence of EPs account for 7.8% up to 34.9% in different populations, such as patients presenting with abnormal uterine bleeding [1].

2.2. Cervical polyps

Cervical polyps are the next most reported after EPs. According to Levy et al. [6], endocervical polyps are identified in 2–5% of cases.

2.3. Vaginal/vulva polyps

Vaginal polyps are the least frequently observed, with very few reports found in the literature [7]. As such, the focus of this review remains primarily on endometrial and cervical polyps.

3. Topographical classification of polyps

The key difference between endometrial and cervical polyps is their location. Accordingly, the first way to categorize polyps is by their topography. Cervical polyps can be endocervical categorized by their presence inside the cervical canal, or ectocervical which are present on the outer surface of the cervix as demarcated by the transformation zone. Endocervical polyps are more common than ectocervical polyps and they are present mostly in premenopausal women. In contrast, EPs are present in the uterine cavity and are made up of endometrial glands and stroma (with blood vessels if their size is large) [6].

3.1. Endometrial polyps

EPs are considered hyperplastic growths of stroma and endometrial glands. They are usually benign but can be malignant in some rare cases [6]. The most common symptom of polyp involvement is abnormal uterine bleeding (AUB) and usually is more commonly seen in premenopausal women. However, some patients might be completely asymptomatic [1]. Polyps are sometimes detected incidentally in asymptomatic patients. In patients that complain of symptoms, however, abdominal pain is often mentioned [3]. Histologically, EPs are characterized by fibrotic stroma, thick blood vessels and irregular glands (Figs. 1 and 2). In addition to that, they can be carcinomatous (rare), atrophic, or hyperplastic [6].

3.2. Cervical polyps

Cervical polyps arise from glandular epithelial hyperplasia. They are commonly benign but they can be malignant in 0.2–1.5% of the cases. The aetiology is unclear and they are usually pedunculated (Fig. 3). In addition, at the tip of the polyp, there is commonly squamous metaplasia [6].

4. Stalk formation

A third method used to categorize polyps is based on the presence or absence of a stalk. If the stalk of the polyp is narrow and elongated, it is referred to as pedunculated polyp. This formation is more common than a polyp with no stalk, which is referred to as sessile polyp.

5. Histological type

The most trustworthy histological features used to identify a polyp are the presence of focal glandular clusters, followed by fibrous stroma [8]. Cervical polyps are characterized by a fibrovascular core of stromal cells surrounded by a papillary proliferations of cells. These cells may be composed of either squamous or glandular epithelium. EPs, on the other hand, are better described as a mix of large thickened blood vessels with fibrous stroma and differently shaped glandular spaces. EPs are more varied in nature, which reflects the broad spectrum of the endometrial tissue, where the polyps originated from and the wide variations observed between cases. Classification by tissue type is another way to categorize polyps. Multiple categories have been named to describe these species such as: adenomatous (most common), cystic, fibrous, vascular, inflammatory, and fibromyomatous. Alternatively, Di Spiezio Sardo et al. [9] labelled the possible types as: hyperplastic, atrophic, functional, adenomyomatous and pseudopolyps. Little histological description of these structures is available for vaginal polyps, owing to their extreme rarity. Thus far, vaginal polyps have described them as tubulo-squamous in nature [7]. This is a notion, however, that must be further investigated.

6. Location of the polyps in the endometrial cavity

An important piece of information that is frequently left out of publications, is the exact anatomical localization of the polyps. Cervical polyps may be present either in the endocervix or ectocervix (Fig. 3). However, EPs are far more complex when considering that they may be present at any site within the endometrial cavity. The frequency of polyps in various locations in the uterine cavity are included in the data shown in Table 1. One study reported that resected uterine polyps were most frequently taken from the anterior and posterior walls followed by the fundus. However,

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