

HKCOG Guidelines

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Guidelines on investigation of women with abnormal uterine bleeding under the age of 40

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1 INTRODUCTION

Abnormal uterine bleeding (AUB) is a common complaint in gynaecological practice and represents a major proportion of outpatient attendance. One in 20 women in UK consulted their GP for menorrhagia. In Hong Kong, the incidence of AUB is not available but the following reference can provide some information. The 1994 HKCOG Territory Wide Audit¹ showed that there were 5586 admissions for menstrual related problem, 1455 for postmenopausal bleeding accounting for a total of 11.5% of all gynaecological discharge. The number of D&C/polypectomy was 6608 (13.47% of all operations) and hysteroscopy was 1201 (2.45% of all operations). The above report related to those patients who needed in patient care so the prevalence of AUB is much higher than these figures.

As the patterns of investigation are diversified, a guideline on AUB was considered necessary. Women under the age of 40 will be targeted in this guideline as they represent a significant amount of workload in our practice.

bleeding can be referred as dysfunctional uterine bleeding after exclusion of organic causes. Postmenopausal bleeding referred to bleeding after menopause and is not included in the present guideline.

Obtaining a good menstrual history is mandatory to guide the clinician in making the correct diagnosis and help to understand the degree of physical and social disturbance incurred. On general examination, any pallor should be noted as well as for thyroid gland enlargement. If there are features suggestive of thyroid dysfunction from history or physical examination, a thyroid function test can be ordered. Routine thyroid function test however is not recommended in all patients with menorrhagia.² A speculum examination and bimanual examination could elucidate causes for abnormal bleeding such as cervical polyp, cervical carcinoma, uterine fibroids and ovarian tumours etc. The following investigations can be arranged depending on the clinical situation: (1) cervical smear if due (2) complete blood picture to look for any anaemia, especially in those with menorrhagia (3) pregnancy test.

2 DEFINITIONS AND INITIAL INVESTIGATIONS FOR AUB

Menorrhagia is heavy cyclical menstrual blood loss over several consecutive cycles without any intermenstrual or postcoital bleeding (i.e. without cycle disturbance).² Intermenstrual bleeding, pre and postmenstrual spotting, perimenopausal

3 ENDOMETRIAL ASSESSMENT

Essentially there are four methods of endometrial assessment namely, ultrasound scan, endometrial biopsy or aspirate, hysteroscopy and D&C under various modes of anaesthesia.

3.1 Ultrasound scan

Ultrasound scan, particularly the transvaginal route, is used to assess endometrial thickness, endometrial and myometrial consistency and abnormalities of endometrial morphology like submucosal fibroid or polyp etc. Most of the studies however were on the endometrial thickness of postmenopausal women. According to Smith Bindman et al³, the average endometrial thickness for normal postmenopausal women was 4 mm, those with endometrial polyp 10 mm, those with endometrial hyperplasia 14 mm and endometrial carcinoma 20 mm. The prediction of endometrial pathology based on ultrasound scan in premenopausal women is not reliable because of great overlap between normal range and those with endometrial pathology.

It has been recommended that in patients with menorrhagia the uterine cavity should initially be investigated using transvaginal sonography.⁴ Transvaginal ultrasonography is preferable to pelvic ultrasonography because of better quality of its image. This is achieved because of its higher frequency which allows greater image resolution at the expense of decreased depth of penetration. The advantages of ultrasound scan in other patients with abnormal uterine bleeding are not clear, but using the same argument, transvaginal scan can be of use in detecting gross endometrial or uterine pathology and a normal scan may provide reassurance to the patient and clinician. In Hong Kong, practitioners with available machine and experience, ultrasound scan can be a first line of investigation for women with AUB. Short of performing ultrasound scan in every patient, the following groups of patients may benefit from a scan

3.1.1 patients at risk of endometrial carcinoma (e.g. tamoxifen use, obesity, PCOD; this group of patients should have

endometrial biopsy as initial investigation as well)

3.1.2 patients with persistent and long standing symptoms

3.1.3 patients not responding to medical therapy

3.1.4 patients in whom pelvic examination is not possible or unsatisfactory

Sonohysterography involved the instillation of 5-15 ml of normal saline into the uterine cavity and a better detection of endometrial polyp and submucous fibroid was reported.⁵ The additional advantage of this technique over conventional ultrasound in managing patients with AUB awaits further studies. Other tests that have been studied but not of clinical use include: three dimensional ultrasound, colour Doppler study (to detect endometrial malignancy) and MRI scan.

3.2 Endometrial biopsy

The main purpose of obtaining an endometrial biopsy or endometrial aspirate is to exclude endometrial pathology like hyperplasia, disordered endometrium or malignancies. Most endometrial biopsies can be performed in outpatient or office clinics and have the advantage of being simple, quick, safe, convenient and avoiding the need for anaesthesia. Furthermore, the device is disposable and is hundred times less costly than a conventional D&C.

The most commonly used devices are the Pipelle, Z-sampler and Vabra aspirators. Pipelle and Z-sampler could be used as the first line endometrial biopsy device as they are more convenient to use compared with Vabra. Vabra aspirator operates with a suction system usually a vacuum pump and the pain associated with Vabra aspirator is higher compared

with Pipelle.⁶ The percentage of adequate sample and the detection rate of endometrial carcinoma for the various devices were shown below.

Device	Patient characteristics	Adequacy of sample obtained	Reference	Rate of detection of endometrial carcinoma	Reference
Pipelle	Postmenopausal	84%	Ben-Baruch et al ⁷	67%	Ferry et al ¹⁰
	Pre- and postmenopausal	91%	Ben-Baruch et al ⁷	98%	Stovall et al ¹¹
Z-sampler	Postmenopausal	74%	Larson & Broste ⁸	94%	Larson et al ¹²
	Premenopausal	95%	Larson & Broste ⁸		
Vabra	Postmenopausal	88%	Goldberg et al ⁹	95%	Grimes ¹³
	Pre- and postmenopausal	91%	Kaunitz et al ⁶		

As shown in the above table, the sample adequacy rate was similar for the three devices ranging from 91 to 95% in the premenopausal (±postmenopausal) group. For postmenopausal patients, the adequacy rate was significantly lower probably because of the atrophic endometrium. A local study using Z-sampler in pre and postmenopausal patients showed an adequate sample in only 69% but the detection rate for endometrial carcinoma was 100%.¹⁴ The false negative rate for endometrial carcinoma was low as shown in the above table (2 to 5%) and endometrial biopsy is reliable in excluding endometrial carcinoma. There was one study using Pipelle having a low detection rate of 67%¹⁰, the false negative biopsies were in women with small well differentiated endometrial carcinoma. All the women in this study had undergone D&C before the Pipelle biopsy was performed and this may have affected the results.

The Vabra device can sample more endometrium (42%) compared with Pipelle (4%)¹⁵, so Vabra can be used together with hysteroscopy for patients with initial inadequate endometrial biopsy.

Endometrial cancer is thought to be uncommon in premenopausal women and especially so in women under the age of 40 and this was also the local experience¹⁶. The Hong Kong Cancer

Registry presented the age specific incidence for endometrial carcinoma in various age group: 2 per 100,000 for women at 30, 4 per 100,000 for women at 35, 9 per 100,000 at 40. The incidence raised sharply to 23 per 100,000 when the women reached 50 and peaked at 50-54. This data was in contrast to the incidence of endometrial cancer reported in women under 40 (0.85% to 8%) in older retrospective studies.

At what age should the gynaecologist perform the endometrial biopsy? It has been suggested that routine endometrial biopsy is not necessary at the *initial* investigation for *menorrhagia*² but if menorrhagia persists, endometrial biopsy is required.⁴ The need for endometrial biopsy in patients with *irregular menstruation* is controversial. Rather than arbitrary choosing an age at which endometrial sampling should be done, the woman's risk of having endometrial carcinoma should be assessed. Patients with obesity, polycystic ovarian syndrome, unopposed oestrogen therapy, tamoxifen therapy and those patients with persistent or long standing AUB should be offered endometrial biopsy. Some women at high risk of endometrial cancer would need endometrial sampling regardless of age. Therefore, HKCOG would recommend endometrial biopsy in all women with AUB at or above the age

of 40, and in women with risk factor for endometrial carcinoma irrespective of age. Those patients with persistent symptoms or having failed medical treatment should have endometrial biopsy as well.

3.3 Hysteroscopy

Hysteroscopy allows for examination of the whole endometrial cavity, lower segment and cervical canal. Hysteroscopy can detect small polyp or submucous fibroids, which have been missed by endometrial biopsy, ultrasonography or blind curettage. When hysteroscopy is indicated, it allows direct visualization of the uterine cavity and the opportunity for an endometrial biopsy without usually the need for a general anaesthesia.⁴ Carbon dioxide or saline is often used as distension medium which allows good visibility. The initial set up cost is relatively high and expertise is needed. The patients' acceptability is high and the incidence of failed hysteroscopy is low; the latter is mainly due to pain during the procedure, distorted uterine cavity, and tight cervical os especially in postmenopausal and nulliparous patients. The last problem can partially be overcome by hysteroscope of smaller diameter (minihysteroscopy).

A randomized controlled trial¹⁷ comparing transvaginal ultrasound, outpatient hysteroscopy and endometrial biopsy with inpatient hysteroscopy and curettage showed that a combination of transvaginal scan, Pipelle endometrial biopsy and outpatient hysteroscopy has similar efficacy to inpatient hysteroscopy and curettage for the investigation of AUB. Transvaginal scan and endometrial biopsy can therefore be considered as the first line of investigation followed by outpatient hysteroscopy.

Some authors suggested that a normal cavity on hysteroscopy will obviate the need for an endometrial biopsy. However normal findings at

hysteroscopy are not conclusive of absence of premalignant or malignant lesion and do not eliminate the need for endometrial sampling as they are not substitute for benign findings on histological examination.¹⁸ Vabra aspirator is recommended as more endometrium is obtained. The other alternatives are other endometrial samplers or hysteroscopic directed biopsy.

3.4 D&C

D&C and endometrial histology so obtained were considered as the 'gold standard' in the management of AUB previously. With the advent of hysteroscopy, the use of blind D&C is going out of favour¹⁹. A D&C does not give additional diagnostic information over and above a hysteroscopy with endometrial biopsy and there is a possibility of missing intracavity uterine mass.⁴ Only few patients with failed outpatient hysteroscopy or very tight cervical os required inpatient hysteroscopy and D&C under general anaesthesia. They should be performed as day procedure as far as possible. A D&C is not to be used as a long term therapy for stopping heavy menstrual bleeding which was a common belief in the past.

4 EXPERIENCE OF HYSTEROSCOPY IN HONG KONG

From a survey of the Day Surgery Service of Hospital Authority, only four units are performing outpatient hysteroscopy in clinic. A significant number of D&C was still performed as inpatient (2571 cases in 1998/1999) compared with D&C as day case (816 cases). The extend of outpatient hysteroscopy in private practice is not well known. A study from Prince of Wales Hospital²⁰ showed that in 185 patients outpatient hysteroscopy was successful, well tolerated and pain was minimal. With the addition of paracervical block, the pain during insertion of hysteroscope was decreased but not in the subsequent stages.²¹ A study from Tuen Mun

Hospital²² showed that outpatient hysteroscopy was successful in 248 patients out of 264 (93.9%). The reasons for the 16 failed procedures were: poor hysteroscopic view in 7 cases, cervical stenosis or undue pain during cervical manipulation in 5 cases, extreme uterine retroversion in 3 cases and 1 case of fibroid obstruction. As shown by these figures, outpatient hysteroscopy in Hong Kong is feasible, safe and reliable. The use of hysteroscopy on a day case basis should be further expanded.

5 SUMMARY OF RECOMMENDATIONS

5.1 The chance of endometrial carcinoma in women below the age of 40 is low and endometrial assessment is not warranted unless there are associated risk factors for endometrial carcinoma or if the symptoms are persistent / long standing or symptoms fail to respond to medical treatment.

5.2 Transvaginal sonography and endometrial biopsy are the preferred first line methods of assessing the endometrium, if required.

5.3 Hysteroscopy/Vabra aspiration or hysteroscopy/D&C are the alternative methods of investigation if so required.

5.4 Routine first line D&C should be discouraged.

The recommendations are also summarized in the appended flow-chart.

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This guideline was produced by the Hong Kong College of Obstetricians and Gynaecologists as an educational aid and reference for obstetricians and gynaecologists practicing in Hong Kong. The guideline does not define a standard of care, nor is it intended to dictate an exclusive course of management. It presents recognized clinical methods and techniques for consideration by practitioners for incorporation into their practice. It is acknowledged that clinical management may vary and must always be responsive to the need of individual patients, resources, and limitations unique to the institution or type of practice. Particular attention is drawn to areas of clinical uncertainty where further research may be indicated.

Clinical Evaluation of Abnormal Uterine Bleeding for Women <40

