Assessment of three methods of curetting orientation for women with excessive uterine bleeding

Received: 4/6/2012 Accepted: 4/12/2012

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Abstract

Background and objective: Dilation and curettage (D&C) is commonly performed for the diagnosis of gynecological conditions leading to excessive uterine bleeding. The aim of this study was to evaluate different methods of curetting orientation to optimise the diagnosis of common pathological lesions associated with excessive uterine bleeding.

Methods: Data and cases retrieved from women presented with excessive uterine bleeding and underwent D&C, at a private histopathology laboratory in Erbil city, Kurdistan region, from December 2010 to January 2012. Three methods of curetting orientation were carried out on 275 patients. Light microscopical study was done to asses the cause of excessive uterine bleeding.

Results: A total of 274 out of 275 cases were found to have optimal tissue processing, embedding and histological examination. When the tissue specimens attached to filter paper and gauze, two out of 275 cases were found to have endometrial adenocarcinoma. Moreover, out of 275 cases, 198 were found to have dysfunctional uterine bleeding (hormonal imbalance) and 25 cases were found to have endometrial hyperplasia.

Conclusion: Optimal tissue processing, embedding and histological orientation can be attained by using filter paper and/or gauze. Dilation and curettage is an adequate diagnostic tool for endometrial hyperplasia and carcinoma.

Keywords: curetting, uterine bleeding

Introduction

Dilation and curettage (D&C) refers to the dilation (widening/opening) of the cervix and surgical removal of part of the lining of the uterus and/or contents of the uterus by scraping and scooping (curettage) [1, 2]. D&C is commonly performed for the diagnosis of gynecological conditions leading to excessive uterine bleeding [3,4]. Complications may arise from either the introduction or spreading of infection, adverse reaction to general anesthesia required during the surgery or from instrumentation itself, another risk is the intrauterine adhesions [5, 6]. The endometrial examination may help to distinguish anovulatory from ovulatory bleeding, exclude a hyperplastic condition or carcinoma, follow-up for women with premalignant changes and endometrium treated with hormones also would require sampling to assess response. Because of the increases in the use of hormonal therapy, both in postmenopausal women for replacement and in women with breast cancer as adjuvant therapy, endometrial sampling must be performed for screening. The overwhelming arguments in favour of the accuracy of an office-based endometrial biopsy, the convenience to the patient, and the cost containment have been established firmly in the literature. Office screening procedures continue to play important roles in the diagnostic skills of the gynaecologist[7]. Bleeding not associated with an organic causes in women of child bearing age belongs to dysfunctional uterine bleeding [8, 9]. The aims of the study were to assess various methods of curetting orientation (gauze, filter paper and direct putting of tissue into

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the capsule) for optimal diagnosis of excessive uterine bleeding. Also to determine the most common pathological lesions associated with excessive uterine bleeding in relation to age and tissue specimen size.

Methods

Data and tissue specimens were retrieved from women presented with excessive uterine bleeding (pregnancy associated uterine bleeding was not included in this study) who underwent D&C, under local anaesthesia in a private clinic. A prospective study of 275 patients was conducted from December 2010 to January 2012 at a private histopathological laboratory, Erbil city, Kurdistan region. Three methods to orient the curetting specimen grossly were used. First by direct putting of tissue into the capsule (cassette), the second method is by putting the tissue in a filter paper and thirdly by using a piece of gauze Figure 1. Information of patient's age and tissue specimen size were recorded. For each case a representative sections were stained with haematoxylin (H) and eosin (E) from formalin fixed paraffin embedded tissues. Then light microscopical study done for tissue to assess the histological orientation. Histopathological study was carried out to investigate the causes of excessive uterine bleeding. Data were subjected to statistical analysis using Chi square test of association. A probability value of ≤ 0.05 was considered as statistically significant.

Results

Distribution of patients with excessive uterine bleeding according to age is presented in, Table 1. The median age of the 275 patients was 29 years, ranged from 16 to 69 years. Fifty six percent of the patient's age was below 35 years. A total of 75 out of 275 (27.3%) cases had optimal tissue processing, embedding and histological examination when the specimen put directly without filter paper or gauze, Figure 2, Table 2. Out of 275 cases, 274 were found to have optimal tissue processing, embedding and histological examination, when the specimens attached to gauze or filter paper, Table 2, Figure 3 and Figure 4. Distribution of excessive uterine bleeding causes across various patient age groups was presented in, Table 3. Remarkable differences were found within and among patient's age groups for causes of excessive uterine bleeding. One out of the 275 cases was found to be unsuitable for histological examination . While 198 out of 275 cases were found to have dysfunctional uterine bleeding (DUB), which indicate hormonal imbalance. Most of the patients (122 out of the 198) having DUB were less than 35 years old. Moreover, in 25 out of 275 cases were found to have endometrial hyperplasia. In 21 out of the 25 cases of endometrial hyperplasia were seen among patients of 35-45 years age group. Two out of 275 cases were found to have endometrial adenocarcinoma, in patients older than 45 years age and proven after that by hysterectomy. Distribution of cases according to presence or absence of cervical tissue within curetting material was presented in, Table 4. Most of the patients having cervical tissue among the examined material, being 213 out of 275 (77.5%) cases. Number of cases distributed according to the gross specimen size was listed in, Table 5. In 152 out of 275 cases showed to have gross specimen between 2 and 3 cm.

Table 1: Distribution of specimen according to age.

Age	< 35yrs	35-45yrs	> 45	Total
No. of cases	154 (56%)	90(32.7)	31 (11.3%)	275

Table 2: Optimal tissue processing, embedding and histological examination according to method of orientation.

Examination	Gauze	Filter paper	Direct method
Optimal	274 (99.6%)	274 (99.6%)	75 (27.3%)
Poor	1 (0.6%)	1 (0.6%)	200 (72.7%)
Total	275	275	275

(x^2 = 519, P<0.001)

Table 3: Distribution of excessive uterine bleeding causes according to age.

Age (yrs.)	Unsuitable for diagnosis	Normal endometrial examination	Hormonal imbalance (dysfunctional uterine bleeding)*	Endometrial hyperplasia	Endometrial adenocarcinoma	Total
<35	1 (0.65 %)	30 (19.48%)	122 (79.22%)	1 (0.65%)	0 (0.00%)	154
35-45	0	10 (11.12%)	59 (65.56%)	21 (23.34%)	0	90
> 45	0	9 (29.03%)	17 (54.84%)	3 (9.68%)	2 (6.45%)	31
Total	1	49	198	25	2	275

*dysfunctional uterine bleeding means bleeding not associated with organic cause and histologically showed discordant appearance of endometrial glands and stroma with the expected time of the cycle.

Table 4: Distribution of cases according to the presence or absence of cervical tissue within curetting.

	Presence of cervical tissue	Absence of cervical tissue	total
Number of cases	213(77.5%)	62(22.5%)	275

Table 5: Distribution of cases according to the gross specimen diameter.

	<2cm.	2-3 cm.	>3cm.	total
Number of cases	74(26.9%)	152(55.3%)	49(17.8%)	275

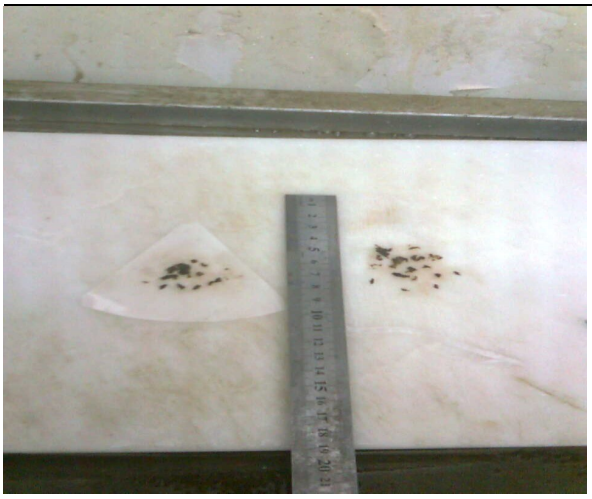

Figure 1: Gross examination of curetting material.

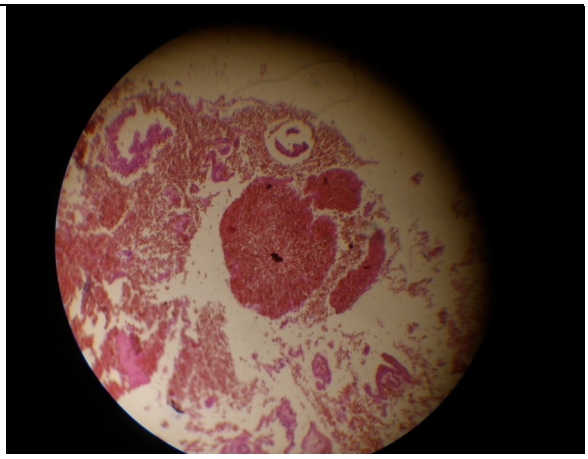

Figure 2: Non secretory endometrial glands by using direct method (X 100) (haematoxylin and eosin stain).

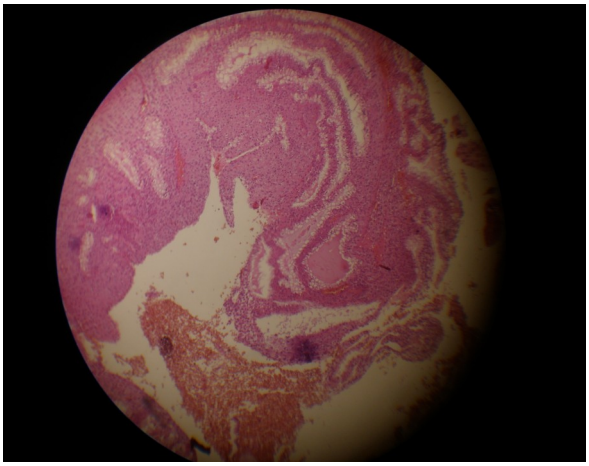

Figure 3: Secretory endometrial glands by using gauze method (X 100) (haematoxylin and eosin stain).

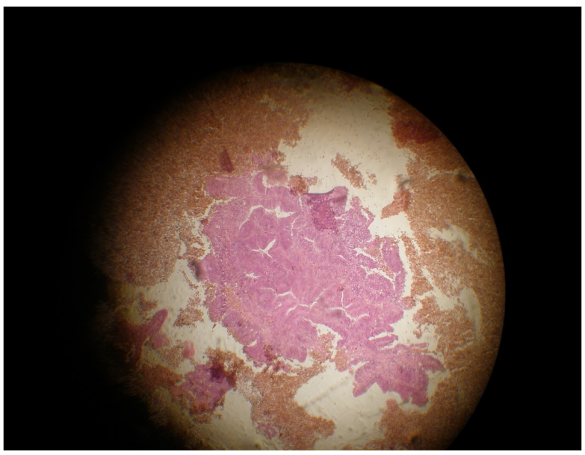

Figure 4: Endometrial adenocarcinoma ,well differentiated , by using filter paper method (X 100) (haematoxylin and eosin stain).

Discussion

A major proportion of the workload in many histopathology laboratories is accounted for by endometrial biopsies, either curettage specimens or outpatient biopsy specimens. All postmenopausal bleeding requires review and appropriate investigations[10]. The curability and accessibility of the endometrium to sampling are features that potentially make endometrial carcinoma an attractive candidate for population-based screening. However, early symptoms make it uncertain if a real survival benefit can be expected from a screening program to date. No systematic studies have demonstrated an efficacy of screening for endometrial carcinoma in a population-based setting[11]. Postmenopausal bleeding had a 64-fold increase in risk for endometrial cancer. There was no increased risk of endometrial cancer or atypia in women who did not have recurrent

bleeding, whereas women with recurrent bleeding have a high-risk [12]. Dilatation and curettage (D&C) is an inadequate diagnostic tool for uterine focal lesions, but the accuracy of D&C in the detection of endometrial hyperplasia and carcinoma is relatively high being 92.1% [13, 14]. While other studies showed dilatation and curettage is an inadequate diagnostic and therapeutic tool for all uterine disorders, this technique missed 62.5% of major intrauterine disorders, and all endometrial disorders were still present in the removed uterus [15]. In other study [16] showed 2.5% of the patients were found to have endometrial carcinoma with median age 56.6 years and 6% of the patients were found to have endometrial hyperplasia whose age was 47.7years, of those 3.6 % had simple hyperplasia and 2.4% complex hyperplasia[16], while in this study 2 out of 275 (0.73 %) of the patients were found to have endometrial carcinoma and in older than 45 years age group, while 25 out of 275 (9.09%) were found to have endometrial hyperplasia, of those 8.36% had simple hyperplasia and 0.73% complex hyperplasia. The criteria for adequacy and common artifacts in endometrial biopsies, as well as the interpretation of endometrial biopsies in general, may cause problems for pathologists. An adequate clinical history, including knowledge of the age, menstrual history and menopausal status, and information on the use of exogenous hormones and tamoxifen, is necessary for the pathologist to critically evaluate endometrial biopsies. The value of ancillary techniques, especially immunohistochemistry, is also important [17].

Conclusion

Optimal tissue processing, embedding and histological orientation can be attained by using filter paper and/or gauze for collecting the specimen grossly. The most common cause for excessive uterine bleeding was dysfunctional uterine bleeding. Dilation and curettage (D&C) is an adequate diagnostic tool for endometrial hyperplasia and carcinoma.

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