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CLINICAL ARTICLE

A national survey of gynecologists on current practice patterns for management of abnormal uterine bleeding in South Korea

Ji Young Lee [a,1], Dong-Yun Lee [b,1], Jae Yen Song [c], Eun Sil Lee [d], Kyungah Jeong [e], DooSeok Choi [b,*]

[a] Department of Obstetrics and Gynecology, Research Institute of Medical Science, Konkuk University School of Medicine, Seoul, South Korea
[b] Department of Obstetrics and Gynecology, Samsung Medical Center, Sungkyunkwan University School of Medicine, Seoul, South Korea
[c] Department of Obstetrics and Gynecology, Uijeongbu St. Mary's Hospital, Catholic University of Korea, Uijeongbu-si, South Korea
[d] Department of Obstetrics and Gynecology, Soonchunhyang University Seoul Hospital, Soonchunhyang University School of Medicine, Seoul, South Korea
[e] Department of Obstetrics and Gynecology, Ewha Womans University, Seoul, South Korea

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ABSTRACT

Objective: To evaluate practice patterns of gynecologists in the management of abnormal uterine bleeding (AUB) in South Korea. *Methods:* Between February 24 and March 12, 2014, a cross-sectional survey was performed through face-to-face interviews with 100 gynecologists selected through quota sampling reflecting regions and hospital types. Through the use of a questionnaire, the level of awareness and practice patterns regarding diagnosis and management of AUB were evaluated. *Results:* Among 100 respondents, 60 reported that they had not previously heard of the International Federation of Gynecology and Obstetrics (FIGO) classification system. The standardization of AUB terminology was reported to be necessary or very necessary by 70 respondents. Pelvic ultrasonography would be used for diagnosis by 99 physicians. The most common first-line AUB treatment was combined oral contraceptives: 55 respondents would use them for heavy menstrual bleeding, 56 for intermenstrual bleeding, and 56 for polycystic ovary syndrome. Combined oral contraceptives were the preferred follow-up medication: 30 would use them for heavy menstrual bleeding, 24 for intermenstrual bleeding, and 52 for polycystic ovary syndrome. *Conclusion:* Despite implementation of the FIGO AUB classification system and guidelines, awareness and use among gynecologists in South Korea remains low.

1. Introduction

Abnormal uterine bleeding (AUB), which covers a wide range of bleeding symptoms [1], is one of the most common gynecologic problems in women of reproductive age [2]. Despite its high prevalence, socioeconomic burden, and influence on patient quality of life, research addressing this problem remains scarce. Additionally, there is substantial variation with regard to the terms used to describe AUB, including symptoms, signs, and causes [3], leading to difficulties in the interpretation of clinical studies, as well as to miscommunication among clinicians and between clinicians and patients [4]. A classification system for causes of AUB according to the pattern of bleeding and etiology in non-gravid women of reproductive age was proposed in 2011 by the International Federation of Gynecology and Obstetrics (FIGO) [5] and recommended for clinical use in 2012 [6]. Despite the time elapsed since its implementation, clinician awareness of this classification system is yet to be addressed in the literature.

Guidelines for the management of AUB are available in some countries [7]. Further, surveys have documented treatment patterns for menorrhagia (heavy menstrual bleeding in FIGO terminology) in the USA [8] and New Zealand [9]. Nevertheless, these surveys did not evaluate clinician awareness of FIGO terminology or the FIGO classification system. The present survey was conducted to evaluate gynecologists' level of awareness of AUB and to assess current AUB management patterns in South Korea.

2. Materials and methods

A cross-sectional survey of gynecologists was conducted through face-to-face interviews held between February 24 and March 12, 2014. On the basis of a report from medical/healthcare institutions in accordance with Korean national health insurance policy in 2013, the target group was defined as gynecologic specialists who practiced in general hospitals (≥100 admission beds), hospitals (30–100 admission beds), or clinics (<30 admission beds). According to this classification, 4669 practitioners listed in the national society database formed the target population. Quota sampling was applied to reflect region and each target hospital type (general hospital, hospital, or clinic); finally, a nationwide target sample size of 100 gynecologists was selected. The sample size of 100 in a target population of 4669 incurred a 9.69%

* Corresponding author at: Department of Obstetrics and Gynecology, Samsung Medical Centre, Sungkyunkwan University School of Medicine, 50 Irwon-dong, Gangnam-gu, Seoul 135–710, South Korea. Tel.: +82 2 3410 3519; fax: +82 2 3410 0630.
E-mail address: dooseok.choi@samsung.com (D. Choi).
[1] These authors contributed equally.

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sampling error in a 95% confidence interval and an 8.13% sampling error in a 90% confidence interval. The study was approved by the Institutional Review Board for Clinical Research at Samsung Medical Center, Seoul, South Korea. Informed consent was obtained from study participants.

To develop the questionnaire for the survey, an expert group of eight specialists was organized, consisting of faculty members of a tertiary general hospital who were selected on the basis of their experience in treating patients with AUB. Experts were interviewed by a professional interviewer to identify the overall AUB course management, from diagnosis to treatment and follow-up, and to understand the variation in treatment course among AUB types. On the basis of the results of this qualitative study, members of the expert group developed the questionnaire to be used for quantitative research. A synopsis of three typical AUB cases was established: heavy menstrual bleeding (HMB, case 1), intermenstrual bleeding (IMB, case 2), and polycystic ovary syndrome (PCOS, case 3) (Table 1). Once the draft questionnaire was developed, pilot interviews were performed with two specialists to verify the logic of the questionnaire and its contents. Feedback from the pilot interviews was reflected in the final version of the questionnaire.

Practical patterns for AUB management were assessed using the case synopsis questionnaire. Clinicians were asked to choose their top three preferred treatment options for each clinical case. An interviewer was physically present to administer the survey and to assist the respondent in completing the survey. The face-to-face interview followed a standardized script without deviation. Each respondent was asked identical questions following the same logic and order. Interviewers were not allowed to change the order of the questions or revise the questions according to their own judgment.

All statistical analyses were performed using R i386 version 2.15.3 (http://www.r-project.org/). $P < 0.05$ was deemed statistically significant. For statistical verification of the differences between variables, the χ^2 test was used to analyze differences in the response rate among the groups and the *t* test or analysis of variance were used to evaluate differences in the mean of numeric answers among variables/groups.

3. Results

Most of the 100 respondents were aged 40 years or older and had more than 15 years of clinical experience (Table 2). Almost two-thirds were based in a clinic (Table 2).

Overall, 60% of respondents were unfamiliar with the FIGO classification; only 2% were actively applying the classification system in practice (Table 3). Among the 40 respondents who were aware of the classification, most had first heard of it at medical society meetings and seminars (Table 3). Among all respondents, 68% thought it was necessary or very necessary for AUB terms to be standardized (Table 3). Overall, 37 (37%) respondents were willing and 29 (29%) were very willing to attend lectures on the FIGO classification system.

Overall, 99% of physicians stated that they would perform pelvic ultrasonography (Table 4). The most common reasons given for such an approach were to confirm underlying disease (98/99 [99%]) and to measure endometrial thickness (97/99 [98%]); it was also used to identify any pregnancy by 75/99 (76%) of respondents.

The preferred first-line drug of choice for treatment of regular HMB (case 1) was combined oral contraceptives (COCs), followed by oral progestin and oral estrogen (Table 5). Among the demographic and clinical practice factors, only the number of years in practice affected the likelihood of choosing COCs as a first-line treatment: 26 (68%) of the 38 practitioners with less than 15 years of experience would choose COCs compared with 29 (47%) of the 62 with at least 15 years of experience ($P = 0.0347$). Few respondents chose a levonorgestrel-releasing intrauterine system (LNG-IUS) as a first-line treatment for HMB (Table 5). Most respondents stated that they would follow up patients after HMB was controlled, with half choosing to follow without any medication (Table 6).

Table 2
Demographic characteristics of respondents (n = 100).

Demographic characteristic	No. (%)
Sex	
Male	58 (58)
Female	42 (42)
Age, y	
<40	13 (13)
40–49	40 (40)
≥50	47 (47)
Type of practice	
General hospital or hospital	36 (36)
Clinic	64 (64)
Area	
Seoul (metropolitan)	56 (56)
Other	44 (44)
Subspecialty	
Yes	24 (24)
No	76 (76)
Time in practice, y	
<15	38 (38)
≥15	62 (62)

Table 1
Presented cases of abnormal uterine bleeding.

	Case 1: heavy menstrual bleeding	Case 2: intermenstrual bleeding	Case 3: Polycystic ovary syndrome
Age, y	33	22	28
Parity[a]	1-0-0-1	0-0-0-0	0-0-1-0
Reason for visit	Heavy menstrual bleeding	Irregular bleeding	Irregular bleeding
Menstrual cycle and length of menstrual flow	Regular menstrual cycle of 30 days, lasting for 7 days	Irregular menstrual cycle for the past 2 months, with bleeding between periods	Most recent menstruation was 3 months ago Menstrual cycle of 24–50 days; irregular and unpredictable
Amount of bleeding	Bleeding was heavy from menarche and gradually increased; it is now difficult to perform daily activities when it is heavy	A small amount of bleeding that lasts for 10 days	Hard to predict
Menstrual history	Menarche at age 13 years Menstrual cycle used to be regular (30 days)	Menarche at age 13 years Menstrual cycle used to be regular (30 days)	Menarche at age 13 years Menstrual cycle has typically been irregular
Ultrasonography findings	Endometrial thickness of 6 mm No abnormalities in the uterus or ovaries	Endometrial thickness of 5 mm No abnormalities found in the uterus or ovaries	Endometrial thickness of 8 mm Ovaries appear polycystic
Other information	The patient complains of light dizziness due to menstruation No other history of diseases	Except for slight menstrual pain, there are no other symptoms The patient has a boyfriend and no particular method of contraception is being used No unusual medical diseases or history of surgery	Her mother has type 2 diabetes BMI of 28 Physical examination reveals extensive facial hair accompanied with acne No other particular disease history

Abbreviation: BMI, body mass index (calculated as weight in kilograms divided by the square of height in meters).
[a] Values are shown as number of full-term deliveries, number of preterm deliveries, number of spontaneous/induced abortions, and number of live children.

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