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Features Of The Anamnestic And Hormonal Background Of Women With Abnormal Uterine Bleeding Associated With Adenomyosis

Gulistan Bekbaulieva

Doctor of Medical Sciences, Associate Professor, Department of Obstetrics and Gynecology, Tashkent Medical Academy, Tashkent, 100105, Uzbekistan

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Abstract: In the FIGO PALM-COEIN classification system, adenomyosis is considered one of the nosology's causing abnormal uterine bleeding (AUB). AUB associated with adenomyosis not only worsens the quality of life for women of reproductive age but also causes significant economic damage to the state. Adenomyosis remains one of the enigmatic pathologies in modern gynecology, from pathogenesis and diagnosis to treatment. Therefore, we aimed to study the features of the anamnestic and hormonal backgrounds in patients with AUB due to adenomyosis. To achieve this goal, women were divided into two groups: Group I (main group, women with AUB associated with adenomyosis) included 160 women aged 28–49 years, and Group II (control group) included 132 women aged 28–49 years without AUB or adenomyosis. The results showed that the medical history of patients with AUB due to adenomyosis was burdened with infertility, miscarriage, and fibrocystic mastopathy in the majority of women, indicating hormonal imbalance in this pathology. The hormonal profile of patients with AUB due to adenomyosis revealed a significant increase in mean serum testosterone levels (3.6 ± 0.12 nmol/L vs. 1.68 ± 0.05 nmol/L in the control group, (P < 0.001 \)). Additionally, hormonal imbalances were identified: hyperestrogenemia in 71.3 ± 1.4% of cases, hypoprogesteronemia in 31.7 ± 3.9%, and thyroid hypofunction in 41.3 ± 1.9%.

Keywords: Abnormal uterine bleeding, adenomyosis, anamnesis, hormonal profile, menarche, menstrual cycle, mean hormone levels, heavy menstrual bleeding, acute abnormal bleeding.

Introduction: Abnormal uterine bleeding (AUB) is a common condition leading to increased healthcare costs and reduced quality of life. Scientific data indicate that one of the symptoms of AUB, heavy menstrual bleeding (HMB), has a prevalence of up to 50% [].

The modern term "abnormal uterine bleeding" (AUB) was introduced by the International Federation of Gynecology and Obstetrics (FIGO) in 2011 to replace poorly defined terms such as menorrhagia, metrorrhagia, and dysfunctional uterine bleeding. AUB includes heavy menstrual bleeding (HMB), irregular and intermenstrual bleeding (IMB), and cycle duration deviations outside the normal range of 24–38 days.

In the FIGO PALM-COEIN classification of AUB causes, adenomyosis is recognized as a distinct nosological entity.

Adenomyosis — a benign gynecological disease characterized by ectopic growth of endometrial tissue within the myometrium — varies anatomically and clinically, from normal uterine size to significant enlargement and from severe dysmenorrhea and hypermenorrhea to asymptomatic cases. Its prevalence is estimated at 20–30% in women of reproductive age.

Adenomyosis remains an enigmatic pathology in modern gynecology. Its association with AUB exacerbates disease severity, further impairing women's quality of life. Thus, studying the anamnestic and hormonal backgrounds of women with AUB associated with adenomyosis is of significant interest.

Research Objective: To study the features of the anamnestic and hormonal backgrounds in patients

with AUB due to adenomyosis.

METHODS

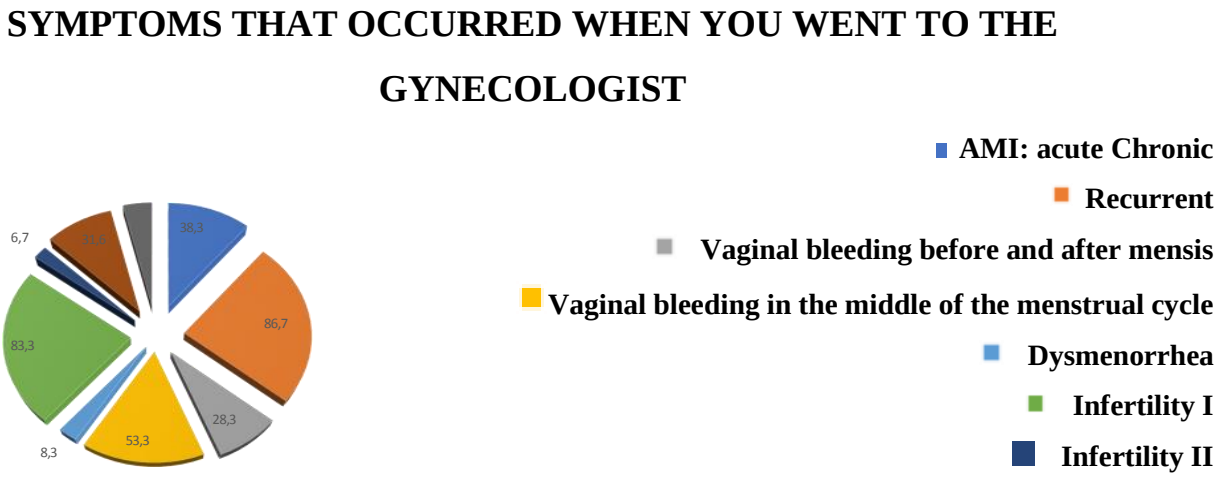
During the dependency phase of the study, the patients were distributed as follows: I main group (women with AMC associated adenomyosis) - 160 women aged 28-49 years, II control group 132 women aged 28-49 years without AMC and adenomyosis.

To find out the hormonal profile in patients with AMC associated with adenomyosis we studied the content of FSH, LH, the ratio of FSH/LH, prolactin (PRL), thyroid hormone (TTH), thyroid hormones (T3, T4), estradiol and testosterone (T) in 160 women from the main group on days 5-7 of the menstrual cycle, progesterone on day 21 of the menstrual cycle. Hormone levels determined in 132 practically healthy women of reproductive age served as a control.

RESULTS AND DISCUSSION

When taking medical histories, the primary complaints among women with adenomyosis included: menstrual cycle irregularities, abnormal uterine bleeding (AUB), dysmenorrhea, infertility, and miscarriage. Abnormal uterine bleeding occurred in an acute form in the vast majority of women, with nearly one-third (53.4±1.4%) experiencing a recurrence of the acute form (Figure 1).

Another characteristic symptom in the study groups was vaginal spotting, observed in over half of the women in the main group before and after menstruation (53.3±1.4%). Notably, while this symptom was present in 61.7% of women with stage I adenomyosis, its frequency statistically significantly increased to 88.3% in stage II. For patients with stage III adenomyosis, the symptom was overshadowed by abnormal uterine bleeding ($p < 0.05$).



Dysmenorrhea was the second symptom for which women with adenomyosis also often complained. Thus, 83.3% of women complained of some kind of lower abdominal pain of varying intensity, most often associated with menstruation.

Every third woman applied for infertility, in particular secondary infertility, only every tenth woman had primary infertility. Such insignificant frequency of primary infertility may be due to the fact that by the time of adenomyosis development (the age category of the study group in our study was 28-45 years) these women realized their reproductive plans. At the same time, 13.3% of women experienced pregnancy failure.

Menstrual cycle disorders detected in patients with adenomyosis have a heterogeneous nature and different pathogenetic mechanisms of the development of disorders. In this regard, the study of the character of the menstrual cycle in patients with adenomyosis was of great interest. Thus, the results of the analysis of the formation and character of the menstrual cycle in the patients of the main group are reflected in Table 1. Thus, the average age of menarche in the main group amounted to 11.5±0.4 years, in the control group this indicator amounted to 13.5±1.4 years. Almost all practically healthy women had menstrual cycle within 6 months, while in the main group only 62 women (38.8±4.8%), and the rest of women - within 1 to 2 years. As for the duration of the menstrual cycle, in the control group the normoponitive cycle prevailed in 96.2±1.4%, in the main group the anteponitive cycle was more often registered in 29.4±1.4% and postponitive cycle in 24.4±1.5%, and the mixed anteponitive and postponitive cycle in 33.1±1.4% of the patients (table 1).

It is noteworthy that anamnesis data showed that the prevalence of cystic fibrosis mastopathy among the women of the main group is 68.1±1.4%, which may be due to hormonal imbalance. When distributing the examined women with detected pathologic changes in the mammary glands by age, it was revealed that the highest percentage of patients at the age of 39 to 44 - 51.4±1.6% (82 women), at the age of 33 to 38 - 20.1±3.7% (22 women) and at the age of 27 to 32 -

4.6±4.2% (in 5 patients).

Table 1.
Results of comparative analysis of menstrual cycle patterns

Characterization of the menstrual cycle	Groups of individuals surveyed.			
	Main, n=160		Control, n=132	
	Abs	%	Abs	%
Establishment of menstrual cycle (MC) within 6 months.	62	38.8± 2.8***	132	100,0
Normoponating MC	21	13,1±1,5*	127	96.2±1.4
Postponing MC	39	24,4±1,5***	3	4.3± 4.4
Anteponating MC	47	29.4± 3.4***	2	1.5± 5.3
Mixed (ante and postponing MC)	53	33,1±1,4***	-	-
Age of menarche	11,5±0,4		13,5±1,4	
Note:	* - differences with respect to the data of the control group are significant (*** - P<0.001)			

In addition, the results of the analysis indicate that the gynecologic anamnesis of patients with adenomyosis is significantly aggravated. The prevalence of such parameters as infertility (38.3%), miscarriage (13.3%), abnormal uterine bleeding in acute form - 53.4%, chronic form - 86.7% and 28.3% recurrence of AMI in the patients of the main group testify to the special role of adenomyosis in the development of AMI.

Analysis of the hormonal balance of the patients showed that hormonal homeostasis disorders took place in all examined women of the main group. Thus, the average value of the level of gonadotropic hormones FSH and LH was within the absolute norm, and the level of gonadotropic hormones did not differ significantly. But, nevertheless, the ratio of LH/FSH level was disturbed and exceeded 1.

The mean value of prolactin content in blood plasma did not exceed the absolute norms in most of the studied subjects. The average values of thyroid hormone levels in the patients of the main group did not differ significantly from those obtained in practically healthy women. As for the value of TTG, there was a tendency to increase the level of thyroid hormone in women from the main group (Fig. 2). Thus, the study subjects of the main group had a significantly increased content of testosterone in peripheral blood serum 3.6±0.12 nmol/L versus 1.68±0.05 nmol/L in the control group (P<0.001).

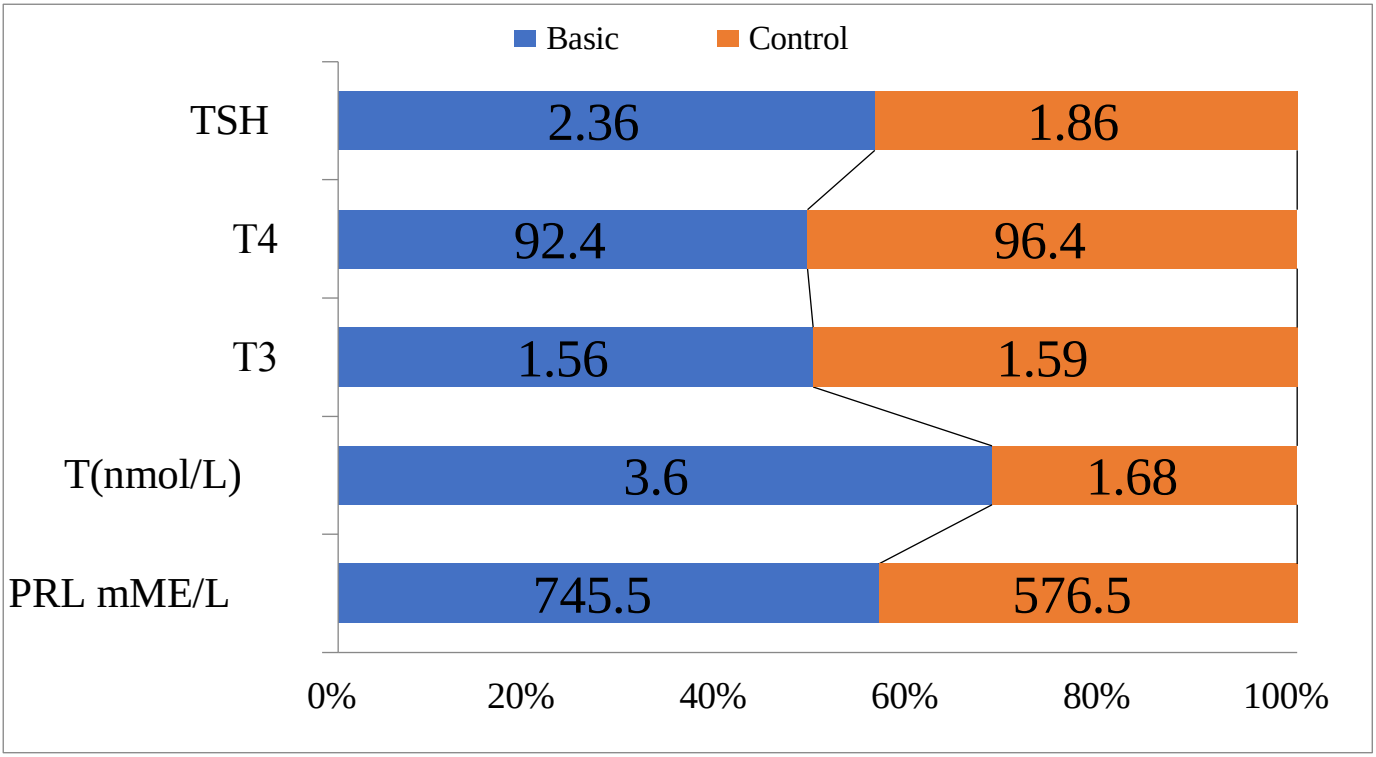


Figure 2. Characterization of hormone concentrations in the examined women (M±m)

Along with the study of average values of hormone levels, we analyzed individual hormone values in each particular patient in comparison with the data indicated in the test kits and in comparison, with clinical manifestations of menstrual cycle disorders. This methodological approach allowed us to identify the following features. In 114 (71.3%) relative or absolute hyperestrogenemia was registered, which was obtained in the main group in the presence of clinical manifestations of hyperestrogenemia (menstrual cycle disorders of the hyperpolymenorrhea type). It should be noted that the increased values of estradiol (123.9±2.5) in patients with adenomyosis were accompanied by a significant decrease in progesterone (1.6±1.9 ng/mL). Thus, absolute hypoprogesteronemia was diagnosed in every third patient (31.7%). In 66 (41.3%) patients a slight decrease of T3, T4 and a significant increase of TTG were observed.

The imbalance of ovarian steroid hormones in patients suffering from abnormal uterine bleeding in adenomyosis is caused by hyperestrogenemia in 71,3±1,4% of cases, hypoprogesteronemia in 31,7±3,9% and thyroid hypofunction in 41,3±1,9%.

The frequency of anovulatory cycles increases with age in the patients of the main group and in the age group of 39-44 years their frequency amounted to 52,3±1,9%.

CONCLUSIONS

1. Patients with AMC due to adenomyosis have a history of infertility, miscarriage, cystic fibrosis mastopathy in the predominant women, which indicates hormonal imbalance in this pathology.

2. The studied hormonal profile of the patients with AMC caused by adenomyosis revealed a significant increase in the average content of testosterone in the peripheral blood serum 3,6±0,12 nmol/l against 1,68±0,05 nmol/l in the control group (P<0,001). Besides, the imbalance of individual hormone values in patients suffering from abnormal uterine bleeding in adenomyosis was revealed: in 71,3±1,4% of cases hyperestrogenemia, in 31,7±3,9% - hypoprogesteronemia and in 41,3±1,9% - thyroid hypofunction.

REFERENCES

1. Abhilasha, N., Dwivedi, N. G., Ashish, N., & Khan, N. N. (2024). ENDOMETRIAL HISTOPATHOLOGICAL PATTERNS IN PATIENTS WITH ABNORMAL UTERINE BLEEDING: a SIX MONTHS OBSERVATION OF 285 CASES IN a TERTIORY CARE HOSPITAL. Asian Journal of Pharmaceutical and Clinical Research, 207–211. https://doi.org/10.22159/ajpcr.2024v17i12.53216
2. Bindhuja, J. (2023). Histopathologic study of endometrium in cases of abnormal uterine bleeding. Journal of Pathology of Nepal, 13(1), 1983–1986.

https://doi.org/10.3126/jpn.v13i1.40891

3. Dubey, A., Shrivastava, P., & Jain, K. (2024). STUDY OF ENDOMETRIAL PATHOLOGY IN ABNORMAL UTERINE BLEEDING. International Journal of Current Pharmaceutical Research, 94–96. https://doi.org/10.22159/ijcpr.2024v16i2.4043
4. Jain, V., Munro, M. G., & Critchley, H. O. D. (2023b). Contemporary evaluation of women and girls with abnormal uterine bleeding: FIGO Systems 1 and 2. International Journal of Gynecology& Obstetrics, 162(S2), 29-42. https://doi.org/10.1002/ijgo.14946
5. Morrison, J., Balega, J., Buckley, L., Clamp, A., Crosbie, E., Drew, Y., Durrant, L., Forrest, J., Fotopoulou, C., Gajjar, K., Ganesan, R., Gupta, J., Hughes, J., Miles, T., Moss, E., Nanthakumar, M. P., Newton, C., Ryan, N., Walther, A., . . . Eve Appeal. (n.d.). British Gynaecological Cancer Society (BGCS) Uterine Cancer Guidelines: Recommendations for practice. https://www.bgcs.org.uk/wp-content/uploads/2021/11/British-Gynaecological-Cancer-Society-v13-for-website-with-figure1.pdf
6. Salih, Y., Almutairi, G. S., Alhumaidi, N. H., Alhabardi, N., & Adam, I. (2024). Abnormal uterine bleeding among rural adolescent schoolgirls: a Cross-Sectional study. Medicina, 61(1), 33. https://doi.org/10.3390/medicina61010033
7. Elmaoğulları, S., & Aycan, Z. (2018). Abnormal uterine bleeding in adolescents. Journal of Clinical Research in Pediatric Endocrinology, 10(3), 191–197. https://doi.org/10.4274/jcrpe.0014
8. S, A., G, P., & D, S. (2021). Study of histopathological patterns of endometrium in abnormal uterine bleeding. International Journal of Reproduction Contraception Obstetrics and Gynecology, 10(4), 1401. https://doi.org/10.18203/2320-1770.ijrcog20211110
9. Elmaoğulları, S., & Aycan, Z. (2018b). Abnormal uterine bleeding in adolescents. Journal of Clinical Research in Pediatric Endocrinology, 10(3), 191–197. https://doi.org/10.4274/jcrpe.0014
10. Ghandour, R., Hammoudeh, W., Stigum, H., Giacaman, R., Fjeld, H., & Holmboe-Ottesen, G. (2023). Menstrual characteristics and dysmenorrhea among Palestinian adolescent refugee camp dwellers in the West Bank and Jordan: a cross-sectional study. Research Square (Research Square). https://doi.org/10.21203/rs.3.rs-2415553/v1
11. Munro, M. G., Mast, A. E., Powers, J. M., Kouides, P. A., O'Brien, S. H., Richards, T., Lavin, M., & Levy, B. S. (2023). The relationship between heavy menstrual bleeding, iron deficiency, and iron deficiency anemia. American Journal of Obstetrics and Gynecology, 229(1), 1–9. https://doi.org/10.1016/j.ajog.2023.01.017