

CENTRAL PLACENTA PREVIA – A RELEVANT MEDICAL-SOCIAL PROBLEM OF MODERN SOCIETY

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Key words: *placenta previa, placenta previa centralis, pregnancy bleeding, hysterectomy*

Introduction

Placenta previa, from the Latin "prae" meaning "in front" and "via" meaning "on the way," refers to an abnormal placement of the placenta. Historically, the term "placenta previa" was first described in the 16th century by Hippocrates, who also identified various forms of placental location [1,2]. In 1685, French physician Paul Portal documented a clinical case of placenta previa [3,4]. It is widely recognized that placenta previa is defined as the complete or partial covering of the cervical os by the placenta [5-8].

Cases of placenta previa complicate normal labor and often necessitate planned cesarean sections for safe delivery. In severe cases, particularly with central placenta previa, a hysterectomy may be required to save the mother's life. It is important to emphasize that the increase in cesarean sections in recent decades has led to a rise in cases of placenta previa, as scar tissue from previous surgeries increases the risk of abnormal placental attachment. Placenta previa is associated with a high risk of severe hemorrhage both during and after delivery, necessitating careful planning and preparedness for possible surgical interventions, including hysterectomy.

Placenta previa is frequently linked with other serious obstetric complications, such as preterm labor, fetal growth restriction, and the need for neonatal intensive care. Notably, in scientific literature, placenta previa is considered an abnormal placental positioning that in 34% of pregnancies and 66% of deliveries results in massive hemorrhages [1]. The occurrence of such hemorrhages often requires radical measures, including total hysterectomy.

According to WHO data, placenta previa occurs in 0.2-3% of pregnancies [3]. The incidence of placenta previa is approximately 1 in 200 pregnancies, and this rate increases with maternal age, the number of previous pregnancies, and cesarean sections. Research by Gringas G., El Gelany S., Oppenheimer C. et al. indicates that the incidence of placenta previa is steadily increasing in developed

countries, correlating with the rising number of cesarean sections [6].

According to the study by Usta I.M., Hobeika E.M., Abu Musa A.A. et al., approximately 30-40% of women with placenta previa may experience massive hemorrhages, necessitating immediate surgical intervention [7]. Furthermore, up to 10-20% of these cases are complicated by central placenta previa, which requires a hysterectomy (removal of the uterus). Research also indicates that the early diagnosis of placenta previa during pregnancy increases the likelihood of surgical intervention, including hysterectomy. Therefore, the relevance of studying placenta previa and surgical interventions in such cases is driven by its frequency and the high risk of severe complications for both the mother and the fetus. Consequently, the aim of this study was to identify the risk factors for developing central placenta previa in women of reproductive age.

Materials and Methods

In this study, 115 women with central placenta previa were examined. The research was divided into two stages: retrospective and prospective. The retrospective study included 30 (26.1%) women with central placenta previa, while the prospective study involved 85 (73.9%) women. All patients were divided into two groups based on the treatment approach used. The first group included 30 women who underwent hysterectomy, forming the retrospective study. The second group consisted of 85 women treated with a new organ-preserving surgical technique (Eurasian Patent (11) 046838 (13) B1), comprising the prospective study. All participants underwent delivery via cesarean section.

A comprehensive obstetric and gynecological examination was conducted, including anamnesis, general clinical assessments, and laboratory-instrumental investigations. Special attention was given to the classification of bleeding during labor following the World Health Organization (WHO) guidelines

for the prevention and management of postpartum hemorrhage, as well as national clinical protocols (Ministry of Health of the Republic of Azerbaijan, 2nd revised edition, Baku, 2022, p. 15-20).

All patients had a history of complicated obstetric and gynecological conditions. Risk factors, causes, and the etiology of bleeding were identified based on standard research protocols. Blood loss was evaluated considering the patients' body weight and initial hemoglobin levels. Symptoms such as general weakness, dizziness, and abdominal pain were also analyzed. Special attention was paid to hereditary factors, extragenital and gynecological diseases, and reproductive function disorders. Peripheral blood was tested using enzyme-linked immunosorbent assay (ELISA) to detect the presence of toxoplasmosis, herpes, cytomegalovirus, chlamydia, mycoplasma, and ureaplasma, as well as antibodies of the IgG and IgM classes.

The diagnosis of placenta previa was based on patients' medical histories, complaints, the severity and duration of bleeding. Clinical, laboratory, and instrumental methods were used to confirm the diagnosis. These included pelvic ultrasound performed with "Aloka SSD 650," "Toshiba SSA 24," and "Siemens Prima" devices using 3.5-7.5 MHz transducers. Doppler ultrasound and magnetic resonance imaging (MRI) were conducted when necessary. Fetal monitoring was carried out using cardiotocography (CTG) to assess fetal heart activity.

Statistical analysis of the collected data was performed using "STATISTICA-10" and "EXCEL 2016" software. Graphical materials were created using "ORIGIN-7." Statistical significance was determined using threshold values of $p < 0.05$, $p < 0.01$, and $p < 0.001$, meeting the requirements of biomedical research.

Results and Discussion

As previously outlined, the study involved 115 women with central placenta previa, who were divided into two groups: Group I consisted of $n = 30$ pregnant women with central placenta previa who underwent hysterectomy, forming the retrospective study. Group II included $n = 85$ patients with central placenta previa who received organ-preserving surgical treatment, forming the prospective study. All patients with central placenta previa (placenta previa centralis) delivered via cesarean section.

The distribution of births among the women was as follows: 14 (12.2%) were primiparous, and 101 (87.8%) were multiparous. Regarding age distribution, 44 women (38.3%) were in the 20-29 year age group, 39 patients (33.9%) were between 30 and 35 years old, 21 women (18.3%) were aged 35-39, and 11 (9.5%) were over 40 years old (Fig. 1). The average age of the women was ($M \pm m$) 36.5 ± 15.5 years.

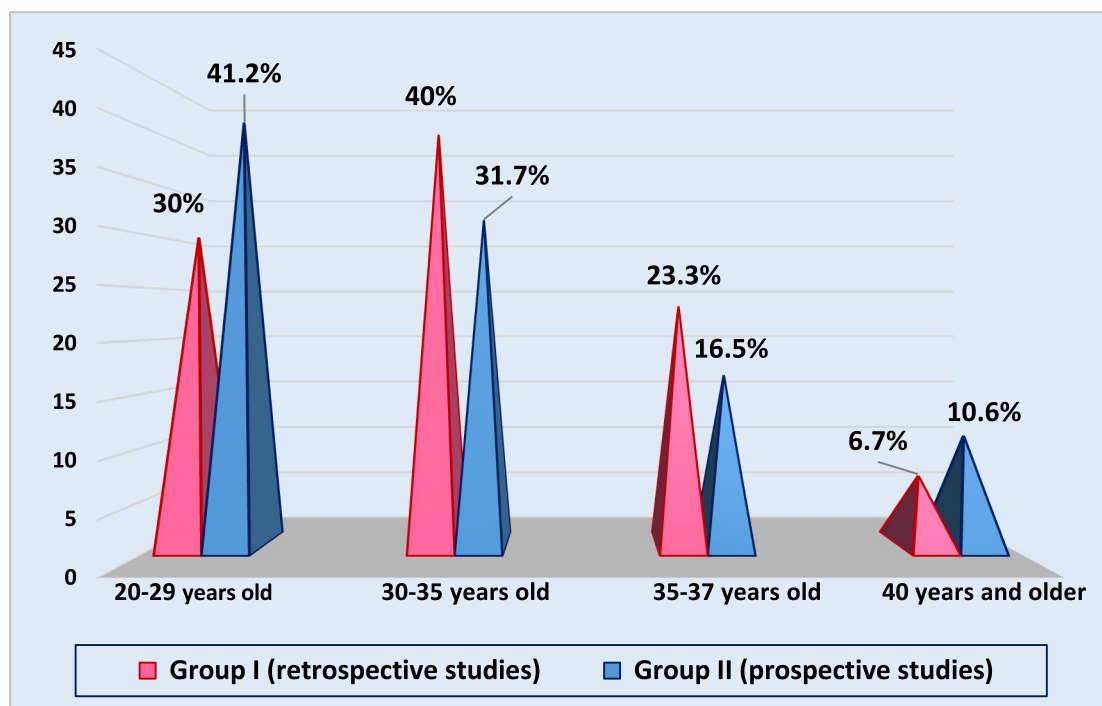


Fig. 1. Distribution of women with placenta previa centralis by age

It is important to note that all patients with central placenta previa were admitted to the clinic during either the second or third trimester of pregnancy.

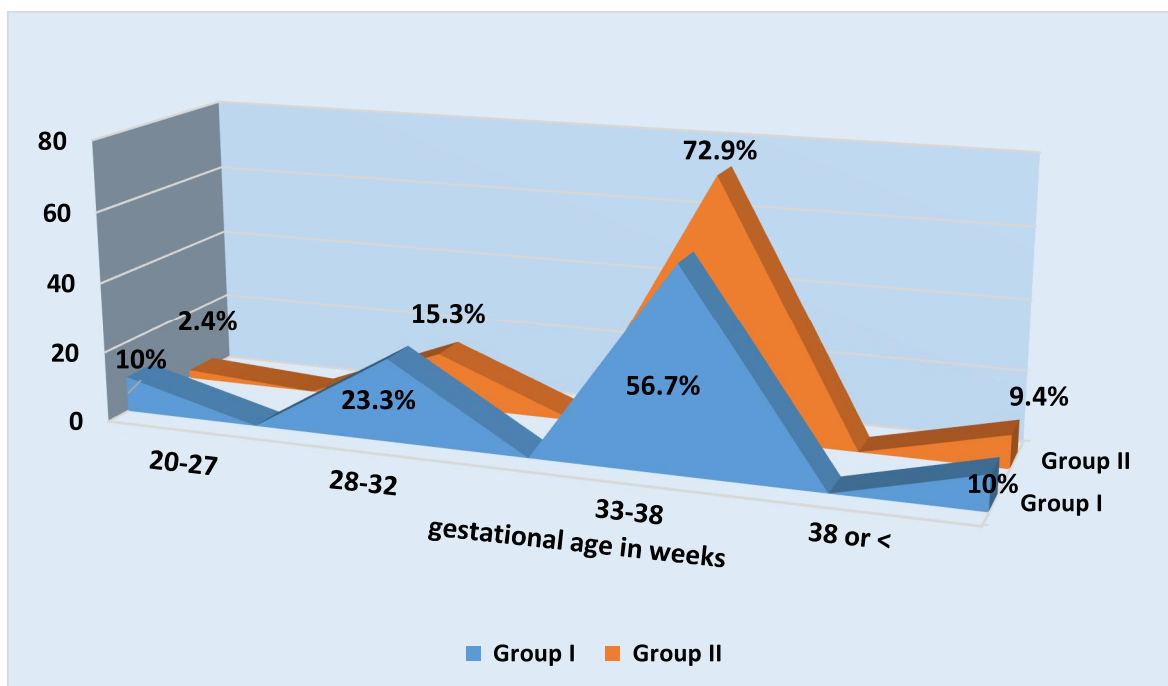


Fig. 2. Diagram showing the distribution of women with central placenta previa according to gestational age.

In Fig. 2, the diagram shows the distribution of women with central placenta previa according to gestational age. The average gestational age ($M \pm m$) at the time of hospitalization was 29.5 ± 9.5 weeks. Preterm labor occurred in 27 cases (90%) in Group I and in 78 cases (91.8%) in Group II. Term deliveries were observed in 3 women (10%) in Group I and in 7 patients (8.2%) in Group II.

Notably, 11 women in Group I (36.7%) began menstruating at the age of 10-12 years, indicating earlier sexual maturation. In Group II, a similar onset of menstruation was observed in 28 patients (33.0%). At the same time, late onset of the menstrual cycle (15-16 years) was recorded in one patient (3.3%) from Group I and in three women (3.5%) from Group II. Menstrual disorders were also identified among patients in both groups. Hypomenorrhea was

recorded in 5 women (16.7%) from Group I and in 13 patients (15.3%) from Group II. Hypermenorrhea was more common among women in Group II, with 27 cases (31.8%), compared to 6 cases (20%) in Group I. Dysmenorrhea was most prevalent among patients in Group II (32 cases, 37.6%), while in Group I, its frequency was 36.7% (11 cases). When analyzing the reproductive function of patients with central placenta previa, it should be noted that spontaneous miscarriages occurred only in Group II, affecting 12 women (14.2%). Medical abortions were reported in the medical history of 17 patients (56.7%) from Group I and 45 women (52.7%) from Group II. Cases of missed miscarriage were recorded in one patient (3.3%) from Group I and in 12 women (14.2%) from Group II.

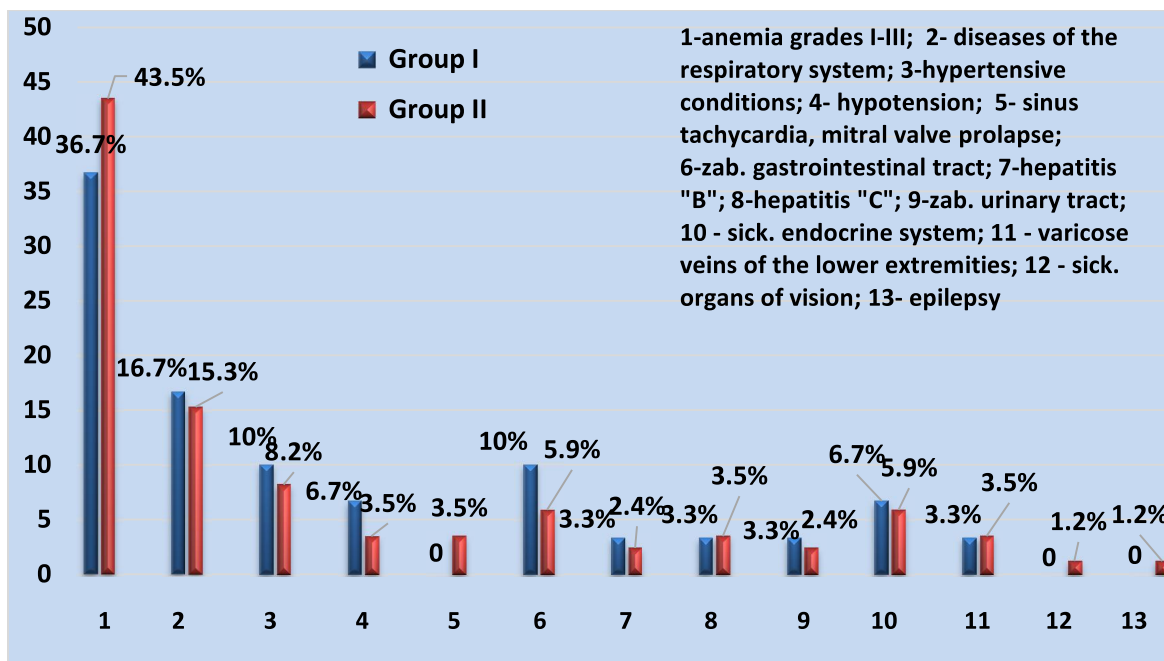


Fig. 3. Diagram of the frequency of extragenital diseases among pregnant women with central placenta previa.

In Fig. 3, a comparative diagram illustrates the frequency of extragenital diseases among pregnant women with central placenta previa. Anemia of grades I-III was diagnosed in 11 women (36.7%) in Group I and in 37 women (43.5%) in Group II. Respiratory system diseases, particularly bronchitis, asthma, and acute respiratory viral infections, were noted in 5 cases (16.7%) in Group I and 13 cases (15.3%) in Group II. Hypertensive conditions were found in 3 women (10%) in Group I and in 7 women (8.2%) in Group II. Hypotension was recorded in 2 cases (6.7%) in Group I and in 3 cases (3.5%) in Group II. Sinus tachycardia was identified only among patients in Group II in 3 cases (3.5%). Gastrointestinal diseases (gastritis, cholecystitis, gallbladder disease) were noted in 3 cases (10%) in Group I and in 5 cases (5.9%) in Group II. Hepatitis B was registered in 1 case (3.3%) in Group I and in 2 cases (2.4%) in Group II. Hepatitis C was also noted in 1 case (3.3%) in Group I and in 3 cases (3.5%) in Group II. Urinary

tract diseases (cystitis, pyelonephritis) were recorded in 1 patient (3.3%) in Group I and in 2 women (2.4%) in Group II. Endocrine diseases, particularly diabetes, hypothyroidism, and autoimmune thyroiditis, were noted in 2 cases (6.7%) in Group I and in 5 cases (5.9%) in Group II. Patients also presented with varicose veins of the lower limbs, observed in 1 case (3.3%) in Group I and in 3 cases (3.5%) in Group II. Eye diseases, specifically myopia, were noted in only 1 case (1.2%) among patients in Group II. There was also 1 case (1.2%) of epilepsy in Group II, with no cases reported in Group I.

Among gynecological diseases (Fig. 4), cervical ectopia was observed in 3 cases (10%) in Group I and in 5 cases (5.9%) in Group II. Endometritis and cervicitis were noted in 3 cases (10%) in Group I and in 5 cases (5.9%) in Group II. A bicornuate uterus was identified in 2 cases (6.7%) in Group I and in 1 case (1.2%) in Group II.

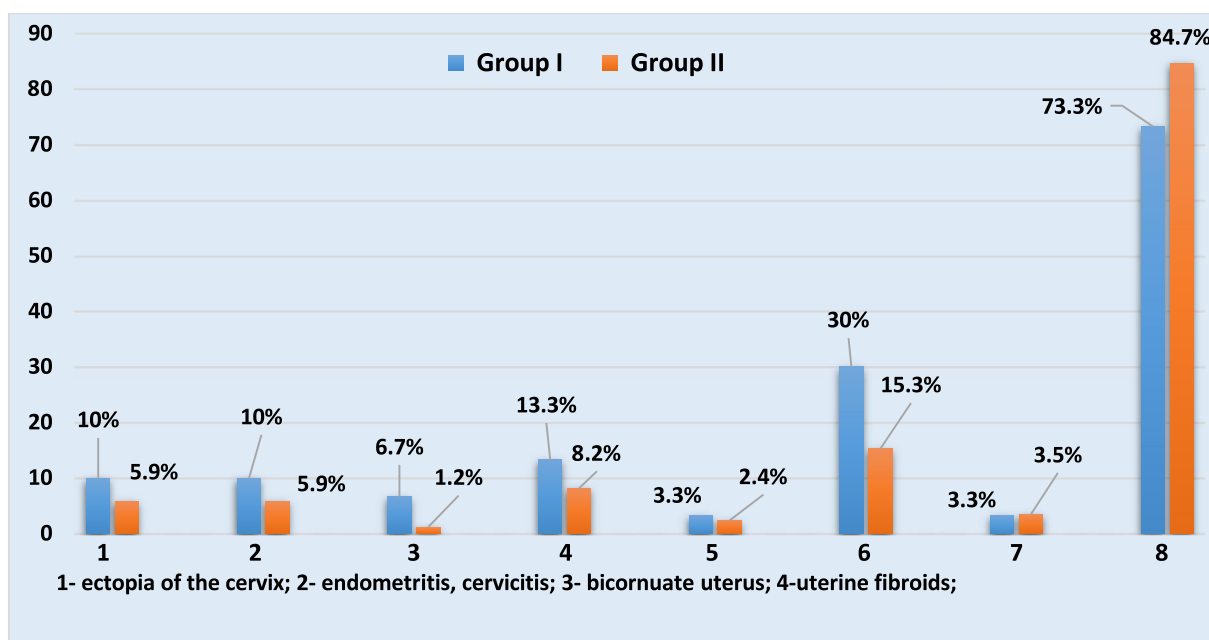


Fig. 4. Diagram of the frequency of gynecological diseases among pregnant women with central placenta previa.

Uterine fibroids were identified in 4 cases (13.3%) in Group I and in 7 cases (8.2%) in Group II, respectively. Cases of vaginitis were also observed in this group of women. Specifically, in Group I, vaginitis was registered in 9 cases (30%) and in Group II in 13 cases (15.3%). Endometriosis was noted in 1 case (3.3%) among patients in Group I and in 3 cases (3.5%) among women in Group II. It is important to highlight that menstrual cycle disorders were recorded in 22 cases (73.3%) in Group I and in 72 cases (84.7%) in Group II. We also conducted ultrasound examinations that allowed us to diagnose central placenta previa in this group of pregnant women.

Conclusions

1. Risk factors for the development of central placenta previa include both gynecological and extragenital diseases. Among gynecological diseases, significant factors include vaginitis (19.1%), uterine fibroids (12.1%), endometritis, and cervicitis (7%), as well as cervical ectopia (7%). Extragenital factors include anemia (41.7%), respiratory system diseases (15.6%), hypertensive conditions (8.7%), and endocrine pathologies such as diabetes, hypothyroidism, and autoimmune thyroiditis (6.1%).
2. The age factor also plays a significant role in the history of women with central placenta previa: 38.3% of patients were aged 20-29

years, and 27.8% were over 35 years old. The frequency of medical abortions reached 53.9%, which is a significant risk factor for abnormal placentation.

3. Among patients with central placenta previa, reproductive disorders are frequently observed. Early onset of menstruation (at ages 10-12) was noted in 33.9%, and menstrual cycle disorders were present in 81.7% of women, indicating a connection between these factors and abnormal placental implantation.
4. Premature births were registered in 91.3% of women with central placenta previa, indicating a high likelihood of complications during pregnancy in this group.

Thus, central placenta previa (placenta previa centralis) is a significant medical and social issue in modern society. The conducted research indicates the presence of significant factors in the obstetric history of women with central placenta previa, which may suggest more pronounced reproductive disorders and risk factors for developing complications. The most commonly encountered extragenital diseases in pregnant women with central placenta previa, such as anemia, respiratory system diseases, and hypertensive conditions, pose a serious threat to the health of both the mother and the fetus. These pathologies require a comprehensive approach to monitoring and treatment to minimize the risks of

complications during pregnancy and childbirth. The presence of gynecological diseases in pregnant women with central placenta previa highlights the need for preventive measures, which require further study. It is important to note that an individual risk assessment and the development of screening

programs for early detection and treatment of these diseases are necessary.

Thus, this study emphasizes the importance of monitoring the health of pregnant women, especially considering placenta previa, to reduce the risk of complications and improve pregnancy outcomes.

XÜLASƏ

Mərkəzi cift gəlişi - müasir cəmiyyətin aktual tibbi-sosial problemidir

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Açar sözlər: ciftin yerləşməsi, placenta previa, hamiləlik zamanı qanaxmalar, mərkəzi cift gəlişi, histerektomiya

Aparılan tədqiqatda mərkəzi cift gəlişi diaqnozu qoyulmuş 115 hamilə qadın iştirak edib. Bütün pasiyentlərə qeysəriyyə əməliyyatı ilə doğuş edilmişdir. Statistik təhlilin nəticələri göstərdi ki, bu patologiyanın inkişafında risk faktorları həm ginekoloji, həm də ekstragenital xəstəliklərlə əlaqəlidir. Ginekoloji patologiyalar arasında ən əhəmiyyətli faktorlar kolpit (19,1%), uşaqlıq mioması (12,1%), endometrit və servisit (7%), həmçinin uşaqlıq boynunun ektopiyası (7%) olmuşdur. Ekstragenital risk faktorları arasında ən çox anemiya (41,7%), tənəffüs orqanlarının xəstəlikləri (15,6%), hipertenziv vəziyyətlər (8,7%) və endokrin patologiyalar, məsələn, şəkərli diabet, hipotiroidizm və autoimmun tireoidit (6,1%) aşkar olunmuşdur.

Yaş faktoru da əhəmiyyətli rol oynayır: 38,3% pasiyentlər 20-29 yaş arasında, 27,8% isə 35 yaşdan yuxarı olmuşdur. Tibbi abortların tezliyi 53,9%-ə çatmışdır ki, bu da anormal cift yerləşməsinin inkişafında mühüm risk faktorunu sayılır. Mərkəzi cift gəlişi olan qadınlar arasında reproduktiv funksiyaların pozulması geniş yayılmışdır. Menstruasiyanın erkən başlaması (10-12 yaşda) 33,9% pasiyentdə müşahidə olunmuş, menstruasiya dövrünün pozulmaları isə 81,7%-də qeydə alınmışdır ki, bu da bu faktorların anormal cift implantasiyası ilə əlaqəsi olduğunu göstərir.

РЕЗЮМЕ

Центральное предлежание плаценты – актуальная медико-социальная проблема современного общества

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Ключевые слова: расположение плаценты, предлежание плаценты, кровотечения при беременности, placenta previa centralis, гистерэктомия

В проведённом исследовании приняли участие 115 беременных женщин с диагнозом центрального предлежания плаценты. Все пациентки были родоразрешены путём операции кесарева сечения. Результаты статистического анализа выявили, что факторами риска развития данной патологии являются как гинекологические, так и экстрагенитальные заболевания. Среди гинекологических патологий наиболее значимыми оказались кольпит (19,1%), миома матки (12,1%), эндометрит и цервицит (7%), а также эктопия шейки матки (7%). В числе экстрагенитальных факторов риска наибольшее значение имели анемии (41,7%), заболевания органов дыхания (15,6%), гипертензивные состояния (8,7%) и эндокринные патологии, такие как сахарный диабет, гипотиреоз и аутоиммунный тиреодит (6,1%). Возрастной фактор также играет значительную роль: 38,3% пациенток были в возрасте от 20 до 29 лет, а 27,8% - старше 35 лет. Частота медицинских аборт достигала 53,9%, что представляет собой значимый фактор риска развития аномальной плацентации. Среди женщин с центральным предлежанием плаценты были широко распространены нарушения репродуктивной функции. Раннее начало менструации (в возрасте 10-12 лет) отмечалось у 33,9% пациенток, а нарушения

Bundan əlavə, mərkəzi cift yerləşməsi olan qadınların 91,3%-ində vaxtından əvvəl doğuş qeydə alınmışdır ki, bu da hamiləliyin idarə olunmasında yüksək ağırlaşma riskini göstərir.

Beləliklə, bu tədqiqat, xüsusilə ciftin yerləşməsi ilə bağlı hamilə qadınların sağlamlığının monitorinqinin ağırlaşma riskini azaltmaq və hamiləlik nəticələrini yaxşılaşdırmaq üçün vacibliyini vurğulayır.

менструального цикла - у 81,7%, что указывает на возможную связь этих факторов с аномальной имплантацией плаценты. Кроме того, преждевременные роды были зарегистрированы у 91,3% пациенток с центральным предлежанием плаценты, что свидетельствует о высоком риске осложнений при ведении беременности в этой группе.

Таким образом, данное исследование подчеркивает важность мониторинга здоровья беременных женщин, особенно с учетом предлежания плаценты, для снижения риска осложнений и улучшения исходов беременности.

REFERENCES

1. Буштырев А.В. Предикция и профилактика акушерских кровотечений при аномалиях плацентации. Дис. ... на соиск. уч.ст. к.м.н. Санкт-Петербург, 2017, 148 стр.
2. Грищенко В.И. Предлежание плаценты. Большая медицинская энциклопедия Изд. 3-е // Большая советская энциклопедия. 2019 <https://ru.wikipedia.org/wiki/>
3. Ляшенко Е.Н., Довгань А.А. с соавт. Исходы оперативного родоразрешения беременных с предлежанием плаценты. // Таврический медико-биологический вестник. 2019, том 22 № 3, стр. 23-26
4. Предлежание плаценты: причины, факторы риска. 2022, дек. 29 <https://www.emergency-live.com/health-and-safety/placenta-previa-definition-causes-risk-factors-symptoms-classification/> (электронный ресурс)
5. Ahn, K.H., Lee, E.H., Cho, G.J. et al. Anterior placenta previa in the mid-trimester of pregnancy as a risk factor for neonatal respiratory distress syndrome. //J. PLoS One. 2018, vol. 13(11): e0207061. PMID: 30388184. DOI: 10.1371/journal.pone.020761
6. Gringas G., El Gelany S., Oppenheimer C. et al. Placenta previa and placenta accreta: risk factors, morbidity and mortality. *Obstetrics and Gynecology International*, 2019. doi: 10.1155/2019/5328547
7. Usta I.M., Hobeika E.M., Abu Musa A.A. et al. Placenta previa-accreta: risk factors and complications. *American Journal of Obstetrics and Gynecology*, 2018; 197(5): 435-439. doi: 10.1016/j.ajog.2018.06.034
8. Wang, Y., Hu, C., Pan, N. et al. Prophylactic uterine artery embolization in second-trimester pregnancy termination with complete placenta previa. //J. Int. Med. Res. 2019, Jan; vol.47(1), p.345-352. PubMed: 30318981