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FEATURES OF THE COURSE OF PREGNANCY IN DICHORIONIC DIAMNIOTIC TWINS IN COMPARISON WITH SINGLETON PREGNANCY

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Abstract
The incidence of twin pregnancies has increased worldwide due to the widespread use of assisted reproductive technologies and delayed childbearing. Although dichorionic diamniotic (DCDA) twin pregnancy is considered the most favorable type of twin gestation, it remains associated with an elevated risk of obstetric and perinatal complications.To evaluate the clinical and anamnestic characteristics and pregnancy course in women with DCDA twin pregnancies and compare them with those of women with singleton pregnancies.

Keywords: Dichorionic diamniotic twins, twin pregnancy, singleton pregnancy, clinical characteristics, obstetric outcomes, perinatal outcomes, risk factors.

Introduction

Multiple pregnancy remains one of the most pressing issues in modern obstetrics, driven by a steady increase in its incidence, primarily due to the widespread adoption of assisted reproductive technologies and the increasing age of women entering reproductive age. Among the various types of multiple pregnancy, dichorionic diamniotic (DCDA) twins are considered the most favorable, characterized by the presence of two chorions and two amniotic cavities. However, even with this type of twin, there remains a high risk of obstetric and perinatal complications.

DCDA twin pregnancy is accompanied by significant changes in the woman's body, which can lead to complications such as threatened miscarriage, premature birth, anemia, gestational hypertension, placental insufficiency, and fetal growth restriction. At the same time, pregnancy outcomes are largely determined not only

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by the characteristics of the gestational process but also by the woman's initial health, including her medical and gynecological history. Of particular importance is the analysis of clinical and anamnestic factors, such as reproductive history, the presence of extragenital pathology, previous gynecological diseases, pregnancy onset characteristics, and sociodemographic characteristics (age, social status, place of residence). A comprehensive assessment of these factors allows us to identify predictors of an unfavorable pregnancy course and justify an individualized approach to patient care.

A comparative analysis of the clinical and anamnestic characteristics and pregnancy course in women with dichorionic diamniotic twins and singleton pregnancies is of significant scientific and practical interest, as it allows us to identify key differences that influence pregnancy outcomes.

The aim of this study was to examine the clinical and anamnestic characteristics and pregnancy course in women with dichorionic diamniotic twins and to conduct a comparative analysis with singleton pregnancies.

The comparison groups were generally comparable in terms of key sociodemographic indicators. The average age of women in the group with twin DHDA was 26.3±0.8 years, in the group with singleton pregnancy 25.7±0.9 years. In terms of social status, housewives predominated in both groups: 45.8% in the main group and 53.6% in the comparison group. The proportion of employees was 37.5% and 28.6%, respectively, and students 16.7% and 17.8%. Analysis of place of residence showed that in both groups the majority were residents of rural areas (62.5% and 55.4%, respectively), while the proportion of urban residents was slightly lower: 37.5% and 44.6%.

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Table 1 Amnestic characteristics of women with dichorionic diamniotic twins and singleton pregnancies

Indicator	Twins in the DHA, (n=24)		Single pregnancy (n=56)	
	abs	%	abs.	%
Pervoberemennaya	11	45,8±10,4	25	44,6±4,6
Povtornoberemennaya	13	54,2±10,4	31	55,4±4,6
Urgent births	11	45,8±10,4	27	48,2±3,8
Prejdevremennye rody	3	12,5±6,9	8	14,2±3,7
Operative types	3	12,5±6,9	9	16,1±2,9
Spontaneous miscarriages	4	16,7±7,8	8	14,2±3,7
Artificial abortion	2	8,3±5,8	5	8,9±2,2
Non-viable pregnancy	3	12,5±6,9	6	10,7±1,8
Ectopic pregnancy	2	8,3±5,8	3	5,3±1,6
VZOMT	5	20,8±8,5	15	26,7±4,0
Infertility	7	29,2±9,5*	11	19,6±3,4

Note: the differences are statistically significant ($p < 0.05$)*

Analysis of anamnestic data revealed that the compared groups were generally comparable in most reproductive parameters. The proportion of primiparous women was 45.8±10.4% in the DHDA twin group and 44.6±4.6% in the singleton group, while the proportion of multiparous women was 54.2±10.4% and 55.4±4.6%, respectively.

The incidence of prior term deliveries was virtually identical (45.8±10.4% versus 48.2±3.8%), as were preterm (12.5±6.9% versus 14.2±3.7%) and operative deliveries (12.5±6.9% versus 16.1±2.9%). No significant differences were found in the incidence of spontaneous miscarriages, non-viable pregnancies, artificial abortions, and ectopic pregnancies. Pelvic inflammatory disease (PID) was slightly more common in women with singleton pregnancies (26.7±4.0%) compared to those with DHDA twins (20.8±8.5%), but the differences were not statistically significant.

However, a higher incidence of a history of infertility was noted in women with DHDA twins (29.2±9.5%) versus 19.6±3.4% in the comparison group, which is

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1.5 times higher ($p<0.05$). This finding may indicate the role of assisted reproductive technologies in the occurrence of multiple pregnancies.

Table 2 Comparative analysis of pregnancy outcomes in women with twin and singleton pregnancies

Indicator	Twins in the DHA, (n=24)		Single pregnancy (n=56)	
	абс	%	абс	%
Hyperemesis gravidarum	9	37,5±10,1	12	21,4±4,6
Threat of miscarriage in the first half of pregnancy	16	66,7±9,8*	11	19,6±4,8
Threat of miscarriage in the second half of pregnancy	17	70,8±9,5*	22	39,2±4,7
FPN	16	66,7±9,8*	18	32,1±4,8
Hypertensive disorders	6	25,0±9,0	4	7,1±3,2
ОРИ	13	54,2±10,4*	13	23,2±4,7
IDA	17	70,8±9,5	26	46,4±4,5
Urinary tract infections	9	37,5±10,1	15	26,7±4,2
Varicose veins	6	25,0±9,0	6	10,7±4,0
Obesity	4	16,7±7,8	7	12,5±3,6
Cardiovascular pathology	5	20,8±8,5	9	16,1±3,0
Gestational diabetes mellitus	1	4,2±4,2	0	0

Note: The differences are statistically significant compared to the singleton pregnancy group ($p<0.05$).

A comparative analysis of pregnancy outcomes revealed that women with DHDA twins experienced significantly more complications than those with singleton pregnancies.

Thus, the risk of miscarriage in the first half of gestation in patients with DHDA twins occurred in 66.7±9.8% of cases, compared to 19.6±4.8% in singleton pregnancies, a 3.4-fold increase ($p<0.05$). In the second half of pregnancy, the risk of miscarriage was also significantly higher in the study group—70.8±9.5% versus 39.2±4.7%, a 1.8-fold increase ($p<0.05$). Fetoplacental insufficiency was detected in 66.7±9.8% of cases in women with twin DHDA pregnancies, compared to 32.1±4.8% in the singleton group, a rate approximately 2.1 times higher ($p<0.05$). This indicates a higher functional load on the fetoplacental complex during multiple pregnancies.

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The incidence of acute respiratory infections in patients with twin DHDA pregnancies was 54.2±10.4%, compared to 23.2±4.7% in the comparison group, a rate 2.3 times higher ($p<0.05$).

It should be noted that iron deficiency anemia was also more common in women with twin DHDA pregnancies: 70.8±9.5% versus 46.4±4.5%, a rate 1.5 times higher. However, no statistically significant difference was found between the groups. A similar trend was observed for hypertensive disorders: 25.0±9.0% versus 7.1±3.2%, a 3.5-fold increase, but without reaching statistical significance. Medical hyperemesis, genitourinary tract infections, varicose veins, obesity, and cardiovascular disease were also more common in the DHDA twin group, but the differences in these indicators were not statistically significant. Gestational diabetes mellitus was reported in only one case in a woman with DHDA twins.

Table 3 Timing of delivery in women with dichorionic diamniotic twins and singleton pregnancies

Rody, ned.	Twins in the DHA, (n=24)		Single pregnancy (n=56)	
	abs.	%	abs.	%
28-32	2	8,3±1,4	1	1,8±1,4
32-33	4	16,7±2,6	5	8,9±1,8
34-36	8	33,3±4,4*	7	12,5±3,6
>37	10	41,6±4,5*	43	76,8

Note: The differences are statistically significant compared to the singleton pregnancy group ($p<0.05$).

An analysis of the timing of delivery revealed that full-term deliveries were less common in women with DHDA twin pregnancies than in those with singleton pregnancies. For example, deliveries at 37 weeks or later occurred in 10 women (41.6±4.5%) in the study group versus 43 (76.8±5.6%) in the comparison group, a significantly lower rate of 1.8 times ($p<0.05$).

At the same time, preterm deliveries were significantly more common in DHDA twin pregnancies. This was particularly true for deliveries at 34–36 weeks, which

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occurred in 8 (33.3±4.4%) patients with twins versus 7 (12.5±3.6%) in singleton pregnancies, a 2.7-fold higher rate ($p<0.05$).

Early deliveries—28–32 weeks and 32–33 weeks—were also more common in the DHDA twin group, but no statistically significant differences were found between these subgroups.

Combining all preterm deliveries before 37 weeks, the rate for DHDA twins was 58.3% (14 of 24) compared to 23.2% (13 of 56) for singleton pregnancies, approximately 2.5 times higher. This indicates a significantly higher risk of preterm delivery in DHDA twins.

A comparative analysis showed that DHDA twin pregnancies are characterized by a more challenging pregnancy compared to singleton pregnancies and are associated with a higher rate of obstetric complications.

Women with DHDA twins were more often aged 21–25 years, while older women predominated in singleton pregnancies. No statistically significant differences were found between the groups in terms of social status and place of residence, indicating that the study populations were comparable.

Analysis revealed that women with DHDA twin pregnancies had a significantly higher incidence of infertility, suggesting the significant role of assisted reproductive technologies in the development of multiple pregnancies.

Pregnancy characteristics of DHDA twin pregnancies included a significantly higher incidence of threatened miscarriage in both the first and second halves of gestation, fetoplacental insufficiency, and acute respiratory infections. Furthermore, a trend toward an increased incidence of iron deficiency anemia and hypertensive disorders was noted.

Analysis of delivery timing revealed that DHDA twin pregnancies were significantly more likely to experience preterm birth, which was more than twice as common as in singleton pregnancies, while the rate of full-term births was significantly lower. Thus, DHDA twins are a high-risk factor for an unfavorable pregnancy course and require more careful dynamic monitoring, timely diagnosis of complications and an individualized approach to patient management in order to reduce perinatal risks.

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