

THE INFLUENCE OF INTRAUTERINE INFECTION ON THE COURSE OF PREGNANCY AND CHILDBIRTH

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Abstract. *The study analyzed women who had experienced intrauterine infection and the impact of the infection on the course of pregnancy and childbirth. In addition to collecting medical history, the research included morphological data of postpartum women within the first twenty-four hours after delivery. Pregnant women who had experienced intrauterine infection were found to have a high risk of complications during pregnancy and childbirth.*

Keywords: *intrauterine infections, pregnant women, postpartum.*

Relevance: Despite significant progress made in recent decades in the fight against infectious diseases, intrauterine infections remain a serious unresolved social issue in society. This is due to a persistent trend of deteriorating population health and an increase in the number of infectious diseases. Researchers note the widespread occurrence of perinatal infection, including among clinically healthy newborns. It is known that intrauterine infections, including those affecting the nervous system, are more likely to develop in mothers with chronic somatic diseases, inflammatory diseases of the urogenital tract, a complicated obstetric-gynecological history, pathological pregnancy, and childbirth. Recently, there has been an increase in information about the role of maternal infection as a cause of fetal damage. Obstetricians, neonatologists, and other specialists (including neuropathologists) continue to focus on issues such as determining the role of adverse factors in the pathogenesis of perinatal CNS damage, assessing the risk for pregnant women and fetuses, and finding reliable criteria for the short-term and long-term prognosis of child development. Identifying reliable markers of perinatal CNS damage development will allow for the timely identification of a high-risk group of pregnant women for individual therapeutic and preventive measures. This approach, utilizing forecasting systems, is likely to significantly reduce the frequency of neurological diseases in young children.

Research aim: To investigate the influence of pre-existing conditions and sexually transmitted infections on the course of pregnancy and childbirth.

Materials and methods: The pre-existing conditions, obstetric and gynecological history, and the course of pregnancy and childbirth in 78 women were analyzed. Pathology was detected in 40 women, accounting for 51% of the total number of participants.

Health assessment of expectant mothers during pregnancy utilized a clinical and anamnestic approach, evaluating somatic and obstetric-gynecological history, urogenital infection structure, and analyzing the course of pregnancy and childbirth.

Morphological examination of the placenta was conducted within the first day postpartum in the pathology department of SamMI clinic using an accelerated histological processing technique.

Research findings: Assessment of obstetric and gynecological history revealed vulvovaginitis (25%) and spontaneous abortions (14%) as the most common pathologies. Every second woman had a history of abortions (55%). It is noteworthy that pathological conditions were observed in almost half of the participants (45%), indicating a burdened pre-existing condition

among pregnant women. Screening at women's health clinics identified sexually transmitted infections (STIs) in 25.3% of cases.

Table 1. Structure of STIs detected in pregnant women (n=40)

STIs	Obs.	%
Chlamydia	21	51,2
Ureaplasma	15	36,6
Cytomegalovirus	9	22
Herpes	2	4,9
Rubella	6	14,6

Based on the data presented in Table 1, the highest proportion is attributed to chlamydia (21 cases, 51.2%), ureaplasma (15 cases, 36.6%), cytomegalovirus (9 cases, 22%).

Among 12 pregnant women (29.3%), two STIs were detected, the frequency of mixed sexually transmitted infections is shown in Table 2.

Table 2. Frequency of sexually transmitted mixed infections in pregnant women (n=12).

Infections	Chlamydia	Ureaplasma	Cytomegalovirus	Herpes	Rubella
Ureaplasma	2	-	3	-	-
Rubella	3	-	-	-	-
Cytomegalovirus	4	3	-	-	-
Chlamydia	-	2	4	-	3

Chlamydial infection was most commonly associated with cytomegalovirus infection (4 cases) or rubella (3 cases). Chlamydia was detected in 3/4 cases of mixed infections transmitted sexually (9 cases out of 12).

Therefore, the health status analysis of the examined pregnant women showed that extragenital pathology was observed in almost every fourth woman (24.7%), dominated by inflammatory diseases of the urinary tract. Sexually transmitted infections were detected during pregnancy with the same frequency (25.3%), with chlamydial infection (isolated or as part of a mixed infection) present in half of the cases. Nearly half of the examined individuals (45%) had a complicated obstetric-gynecological history, with the frequency of chronic inflammatory gynecological diseases (adnexitis, colpitis) reaching 26.5%.

Table 3. Frequency of comorbidity of extragenital pathology, obstetric and gynecological pathology in women, and STIs.

Extragenital Pathologies	STIs (n=40)		No STIs (n=38)		P
	Total	%	Total	%	
Chronic pyelonephritis	5	12.5	1	2,6	>0,05
Cystitis	2	5	3	7,8	>0,05
Colpitis	20	50	8	21	<0,001

Thus, the analysis of the combination of extragenital pathology, obstetric and gynecological pathology in women, and sexually transmitted infections (Table 3) showed a

significant association between chronic inflammatory diseases of the gynecological sphere in women (colpitis) and STIs (50%, $p < 0.001$).

These findings suggest a high risk of pathological pregnancy and childbirth, which may contribute to an increase in the frequency of pathology in children, including affecting the nervous system.

Table 4. Characteristics of pathology during pregnancy and childbirth (n=78).

Pregnancy and childbirth complications	STIs (n=40)		No STIs (n=38)	
	Total	%	Total	%
Threat of abortion	15	12,5	10	2,6
Gestosis	5	5	3	7,8
Perinatal CNS damage	20	50	8	21
Hemolytic disease	8	20	5	13
Hypoxia, asphyxia during childbirth	13	32,5	7	18,4
Anemia	17	42,5	11	28,9
Preterm childbirth	16	40	10	2,6
Intrauterine fetal growth restriction	26	65	8	21
Fetal hypoxia	15	12,5	6	15,7

From Table 4, it can be seen that the most common pathologies during pregnancy among the surveyed women were threatened abortion (25 cases, 32%), gestosis (8 cases, 10.2%), preterm labor (26 cases, 33.3%), and anemia (28 cases, 35.9%). A low frequency of antenatal diagnosis of polyhydramnios and fetoplacental insufficiency was noted.

When studying the afterbirth, morphological signs of infection were identified in (18%), placental insufficiency in (26%), their combination in (19%). There were no statistically significant differences in the lesions of different parts of the afterbirth in the studied groups ($p > 0.05$), allowing the assessment of (37%) afterbirths as afterbirths with morphological signs of infection. Evaluation of the lesions in different parts of the afterbirth revealed that afterbirths with signs of infection most commonly presented with choriodecidual inflammation (71.19%), chorioamnionitis (38.98%), phlebitis (33.9%), and arteritis (20.34%). The more inflammatory changes in the afterbirth, the higher the likelihood of fetal infection. Assessment of placental insufficiency revealed that chronic insufficiency accounted for 68.1%, acute insufficiency for 19.4%, and combined for 12.5%.

Conclusion: The examination of pregnant women showed a high frequency of unfavorable pre-morbid background, complicated by obstetric-gynecological history, infections transmitted sexually during pregnancy, combined with a high frequency of complicated pregnancy and childbirth. Morphological examination of the placenta is an additional method; based on the morphological examination of the afterbirth, it is possible to predict the risk of intrauterine infections in newborns.

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