# EXTRAGENITAL PATHOLOGY IN THE DEVELOPMENT OF PREECLAMPSIA

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***Abstract***. *Preeclampsia is a pregnancy complication characterized by a disruption in the processes of the woman's body adapting to pregnancy. The pathophysiological basis of this condition is endotheliosis with generalized angiospasm, leading to multiple organ failure. It most commonly manifests clinically as hypertension, proteinuria, and significant edema.*
***Keywords***: *preeclampsia, extragenital pathology, pregnancy, maternal mortality.*

Preeclampsia remains a major cause of maternal and perinatal morbidity and mortality worldwide. In some developing countries, preeclampsia accounts for 40-80% of maternal deaths. There is also evidence that perinatal mortality is increased fivefold in women with preeclampsia. Intrauterine growth restriction and preterm birth often lead to perinatal mortality.

The incidence of preeclampsia worldwide ranges from 2 to 6% among healthy nulliparous women. Pregnancy complications in developing countries vary from 4 to 18%. In terms of severity, 75% of cases are classified as mild, while severe preeclampsia occurs in 25% of pregnant women. In 10% of pregnant women, preeclampsia develops before 34 weeks of gestation. Among 200 cases of preeclampsia, one case of eclampsia is observed, with nearly one-third of eclampsia cases occurring postpartum.

In 20% of women with preeclampsia, residual microalbuminuria, elevated blood pressure, total cholesterol, low-density lipoproteins, body mass index, fasting insulin, and creatinine levels are detected one year postpartum, according to data provided by G. Smith et al. Additionally, the long-term risk of cardiovascular and cerebrovascular diseases is twice as high in women with preeclampsia and gestational hypertension compared to women of the same age with normal pregnancies. E. Vikse et al. showed that preeclampsia is also a marker of an increased risk of developing end-stage renal disease. Increased mortality from cardiovascular diseases following preeclampsia has been noted even among previously healthy women without vascular risk factors. Preeclampsia is a syndrome of multi-organ functional failure that develops exclusively in connection with pregnancy. Preeclampsia is a pregnancy complication characterized by impaired adaptation processes in the maternal organism to pregnancy. The pathophysiological basis of this condition is endothelial dysfunction accompanied by generalized angiospasm, leading to multi-organ failure. Clinically, it most frequently presents with hypertension, proteinuria, and pronounced edema. Blood pressure normalizes within 12 weeks postpartum. Combined preeclampsia (preeclampsia against the background of extragenital pathology) is characterized by the presence of somatic pathology (most commonly chronic arterial hypertension) before pregnancy or diagnosed before the 20th week of pregnancy, with exacerbation of the hypertensive syndrome and the onset of proteinuria after 20 weeks of gestation.

A retrospective analysis of the course of pregnancy and delivery was conducted on 125 women in the third trimester of pregnancy who were undergoing inpatient treatment at the RSSPMC M&CH. Of these, 95 pregnant women had preeclampsia, and 30 pregnant women with a normal course of gestation were taken as a control group.

The somatic health characteristics of the 95 women suffering from preeclampsia (main group) were analyzed in comparison with 30 women with a physiological course of pregnancy (control group). The average age of women with preeclampsia was 22.5±0.21 years, and in the control group, it was 22.3±0.40 years.

The study of the somatic health of pregnant women with preeclampsia revealed (Table 1) that nearly every second woman suffered from some form of chronic extragenital pathology (63.2±2.2%). Attention is drawn to the high frequency of past inflammatory-infectious diseases, which were more common in pregnant women with preeclampsia. For instance, 65.3% of the examined patients had experienced ARVI at various times, including childhood infectious diseases—43.3±9.0% and 43.2±5.1% (P>0.05) respectively (measles, whooping cough, chickenpox, mumps)—and ENT diseases—43.2±5.1% and 13.3±6.2% respectively (P<0.001). Chronic tonsillitis was found in 47.4±5.1% and 16.7±6.8% respectively (P<0.001), viral hepatitis in 33.7±4.8% and 13.3±6.2% respectively (P<0.05), and pneumonia in 18.9±4.0% and 6.7±4.6% respectively (P<0.05).

In 21 (22.1%) women of the main group, cystitis and kidney diseases were noted The highest prevalence among extragenital pathologies in the examined women of all groups is anemia—80.8%; however, anemia was significantly more frequent in pregnant women with preeclampsia (85.3%). Nearly one-third of pregnant women with preeclampsia (33.7±4.8%) suffered from some form of digestive system disease (gastritis and enterocolitis, biliary dyskinesia). The comparable rate in the control group was significantly lower—13.3±6.2% (P<0.05). during childhood.

***Table 1***

***Somatic anamnesis of the examined women (M±m%)***

| Diseases | Pregnant women without preeclampsia-control group(n=30) | | Pregnant women with preeclampsia-main group(n=95) | |
|---|---|---|---|---|
| | Abs | % | Abs | % |
| Childhood infections | 13 | 43,3±9,0 | 41 | 43,2±5,1 |
| Respiratory viral infections | 8 | 26,7±8,1 | 54 | 56,8±5,1** |
| Chronic tonsillitis | 5 | 16,7±6,8 | 45 | 47,4±5,1*** |
| Pneumonia | 2 | 6,7±4,6 | 18 | 18,9±4,0* |
| ENT diseases | 4 | 13,3±6,2 | 41 | 43,2±5,1*** |
| Cardio vascular diseases | 4 | 13,3±6,2 | 14 | 14,7±3,6 |
| Gastrointestinal diseases | 4 | 13,3±6,2 | 32 | 33,7±4,8* |
| Viral hepatitis | 4 | 13,3±6,2 | 32 | 33,7±4,8* |
| Cystitis and kidney diseases | 1 | 3,3±3,3 | 21 | 22,1±4,3** |

| | | | | |
|---|---|---|---|---|
| Anemia | 20 | 66,7±8,6 | 81 | 85,3±3,6 |
| Thyroid gland diseases | 6 | 20,0±7,3 | 45 | 47,4±5,1** |
| Obesity | 2 | 6,7±4,6 | 9 | 9,5±3,0 |

Note: * - significant compared with data from the control group
(* - P<0,05; ** - P<0,01; *** - P<0,001)

Thyroid diseases were also diagnosed 2.4 times more frequently in pregnant women with preeclampsia than in women in the control group (P<0.01). Thus, women with preeclampsia have a high frequency of concomitant extragenital pathology.

The existing evidence suggests that extragenital pathology, particularly chronic conditions like chronic hypertension, diabetes, and renal disease, can significantly contribute to the development of preeclampsia during pregnancy. These underlying conditions appear to prime the maternal vasculature, immune system, and other physiological systems in ways that make the placenta and maternal organs more susceptible to the pathological processes that characterize preeclampsia. Careful screening and management of these comorbidities prior to and during pregnancy is therefore crucial for identifying high-risk pregnancies and implementing appropriate preventative strategies. While the exact mechanisms by which extragenital pathologies interact with the placenta to cause preeclampsia remain an active area of research, the clinical implications of this relationship are clear - optimizing the health of the mother before and during pregnancy is essential for reducing the incidence and severity of this potentially life-threatening hypertensive disorder.

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