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NAT2 , GST T1, GST M1 GENE POLYMORPHISM AND THE RISK OF THE DEVELOPMENT OF PELVIC ORGAN PROLAPSE AND STRESS URINARY INCONTINENCE.

Hypothesis / aims of study
The estimation of C481T(S1), G590A(S2), G857A(S3) polymorphisms in acetyltransferase 2 (*NAT2)* genes and the deletion polymorphisms of the gene glutathione-S-transferase T1(*GST T1 (del*)) and glutathione-S-transferase M1 (*GST M1 (del*)) with the risk of pelvic organ prolapse (POP) stress urinary incontinence (SUI) was determined .

Study design, materials and methods
The study groups included the patients with POP (POP-Q scale: 1, 2, 3, 4), n=67 and the patients with POP + SUI symptoms combination, n=63. Women free of POP and no complaints on urinary incontinence were included in the control group, n=89. DNA samples were isolated from the blood. The polymorphism analysis was carried out by PCR- RFLP technique .

Results, Interpretation of results
The statistically significant differences of *NAT2* , *GST T1, GST M1* polymorphisms were registered between POP + SUI patients and these ones in the control group. *N/N* genotype of *NAT2 gene* decreased the probability of POP + SUI approximately by 3,7 times (OR = 3,67 95% CI: 1,01-13,38). A combined genotype of *GST T1 / GST M1* decreased probability of POP + SUI combination by 2,5 times (OR = 2,5 95% CI: 1,19-2,24). *del GSTM1* elevated the chance of POP + SUI combination by approximately 1,5 times (OR = 1,49 95% CI: 1,04-2,15).

Concluding message
C481T(S1), G590A(S2), G857A(S3) polymorphisms of *NAT2* gene and the deletions of *GST T1* and *GST M1* genes are associated with a higher risk of POP + SUI combination.

Disclosures
Funding: none **Clinical Trial:** No **Subjects:** HUMAN **Ethics Committee:** Ott`s Research Institute of Obstetrics and Gynecology NWD RAMS local Ethics Committee **Helsinki:** Yes **Informed Consent:** Yes