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P200. INVESTIGATING OF THE EFFECT OF GENE POLYMORPHISMS AND TOXICOLOGICAL PARAMETERS IN MYELOMENINGOCELE

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Neural tube defects are malformations which is the result of faulty closure of the neural tube embryonic development 3rd-4th weeks. In myelomeningocele cases, protective membranes around the spinal cord are ejected through an opening in the spine. Neural tube defects are thought to be formed multifactorial event with genetic and environmental factors such as metals, oxidative stress, DNA damage, reduction of folic acid levels and genetic polymorphisms. It has not been studied yet. The aim of this study is to determined association between myelomeningocele and these parameters. For this reasons, in Ankara University Ibn-i Sina Hospital Brain and Neurological Surgery Department, the pocket tissue and venous blood of babies who are diagnosed with myelomeningocele have no function during and after surgery and their mothers' blood will be used from both sexes (n = 100). Also, 100 blood samples taken from healthy mother and their healthy birth babies will be used as the control group.

Firstly, the gene polymorphisms in encoded various enzymes and proteins which play role in metals' toxicokinetics and related with myelomeningocele formation will determinate. Then, the effect of heavy metals to myelomeningocele formation will investigate in the second part of the study. Thirdly, the definition of the effect of oxidative stress and measurement of enzymes activities will do. At last part, the mitochondrial DNA (mtDNA) damage caused by oxidative stress which is raised by reactive oxygen species will determine.

Metal concentrations will be measured in collected myelomeningocele and control samples. The blood samples will be used to determine genetic polymorphisms, measuring the mtDNA damage and to define oxidative stress parameters.

As a result, the investigation of effect of metals and genetic polymorphisms in myelomeningocele will contribute intrauterine diagnosis and finding new specific drugs that can prevent the development meningomyelocele.

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