Material and methods. It has been used online databases and scientific articles that contain studies of female infertility.
Results. All genetic defects can be divided into the following categories: chromosome aberrations, DNA copy number variants (micro deletions and duplications), single-gene disorders, complex conditions and epigenetic disorders. Chromosome abnormalities account for almost 60% of all spontaneous abortions, and the most common type, trisomy, is closely associated with advanced maternal age. There are 2 forms of female infertility: primary and secondary. Primary female infertility includes premature ovarian failure, polycystic ovary syndrome, endometriosis, and leiomyoma. Secondary infertility arises due to systemic or syndromic genetic defects, including developmental, endocrine, and metabolic defects. Genetic syndromes that manifest female infertility are fragile X syndrome, Noonan syndrome, sickle cell anemia, etc. Other notable conditions include disorders of sex development (SRY), reproductive dysgenesis disorders hypogonadotropic hypogonadism and Kallmann syndrome (KAl1, GNRH1, LEP) , and ambiguous genitalia an androgen insensitivity (AR). Endocrine defects comprise disruption of steroid synthesis and metabolism, and are caused by CYP17 and CYP19 mutation. Also, various metabolic defects (e.g., galactosemia) and mutation in mitochondrial energy pathway (mitochondrial DNA genes) cause toxic effects and lead to secondary female infertility.
Conclusions. The genetics of infertility is very complex and is dependent on different factors. Clearly the hope is that a greater understanding of the genetic control of infertility will bring low-risk treatment regimens that are effective and easy to administer.
Key words. Female infertility, chromosome aberrations, hypogonadotropic hypogonadism, premature ovarian failure

274. NEW COPY NUMBER VARIANTS DISCOVERED IN PATIENTS WITH OBESITY AND INTELLECTUAL DISABILITY

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Introduction. Intellectual disability (ID) is a neurodevelopment disease characterized by intellectual and adaptive impairment, defined by intelligence quotient (IQ) under 70 and can be affirmed after the age of 6. Until this age, the retard is named development delay (DD). This condition is found in 2-3% of individuals in general population, and 50% of these cases are associated with other clinical features, like pediatric obesity. The genomic study using microarray chromosomal techniques revealed in about 20% of intellectual disability patients a genetic cause of copy number variants (CNVs) type, duplication or deletion, but there is a lack of data about CNVs found in patients with ID/DD associated with obesity.
Aim of the study. To find CNVs that could be responsible for the ID/DD associated with obesity phenotype, in 36 Romanian pediatric patients, recruited from the Clinical Emergency Hospital for Children, Cluj-Napoca, Romania.
Materials and methods. We used SNP array technique, Infinum OmniExpress 24V1.2 in order to detect CNVs. Data analysis was made using Genome Studio, and the interpretation of the data was performed using UCSC data base (Decipher, ClinVar, Omim and Gene Reviews).
Results. We found relevant genetic alterations in 15 patients (42%). Several of them presented deletions and duplications that were described before in international databases, but potential pathogen CNVs not described before were also detected. Therefore, we describe a deletion inside KANSL1, the gene responsive for Koolen-De Vries syndrome, a small deletion in OTC gene, a 8p23.1 duplication in BLK gene and also a patient that presented two uniparental disomies, for chromosome 7 and 13.

Conclusions. In this research, we found that 42% of the patients with obesity and intellectual deficiency were carriers of pathogenic genetic abnormalities that can explain their symptoms. Although some of the patients presented classical variants described in literature, some of our findings are variants that were not previously described or were described in very few cases.
Key words: obesity, Intellectual, developmental, copy number variants

275. PRENATAL DIAGNOSIS OF CONGENITAL MALFORMATIONS OF THE BRAIN IN PREGNANCIES WITH GENETIC RISC

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Introduction. The medical-genetic counseling is one of the most widespread and effective methods of prenatal diagnosis (PD) and prophylaxis of congenital and hereditary pathologies.
Aim of the study. To highlight the role of medical-genetic counseling and prenatal diagnosis in pregnancies with risk for malformations of the brain (MB) at early stages of intrauterine development to reduce the incidence of congenital MB in newborn.
Materials and methods. The medical-genetic counseling of the 657 pregnant women during 2015-2017 years, which were divided into two groups: a) I group - 239 women with medium and high genetic risk; b) the II group - 418 women with low genetic risk.
Results. All pregnant women in the study performed noninvasive PD: ultrasound and biochemical screening. In 49 cases the values of serum alpha-fetoprotein were elevated. Examination of pregnant women on informative terms by non-invasive prenatal diagnosis (fetal ultrasonography) allowed the diagnosis of MB to fetuses in 33 cases. Cerebral fetal malformations diagnosed prenatally through the ultrasound examination were: spina bifida - 6 cases, anencephaly - 5 cases, holoprozencephaly - 5 cases, corpus calosum agenesia - 7 cases, hydrocephaly - 4 cases, Dandy-Walker malformation - 3 cases, schizencephaly - 1 case, lisencephaly - 1 case. The medical-genetic counseling were provided to couples. The final decision to interrupt the pregnancy was made by couples. A prophylaxis plan was developed in families with genetic risk.
Conclusions. PD and medical-genetic counseling help to reduce the frequency of congenital malformations in newborns also makes it possible to prevent the birth of children with CM and chromosomal abnormalities diagnosed prenatally until 21 weeks of gestation.
Key words: congenital malformations of the brain, prenatal diagnosis, medical-genetic counseling

276. MULTIPLE EXOSTOSIS - CAUSES AND POLYMORPHISM

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Introduction. Multiple exostosis is a genetic bone disease characterized by the development of osteocondrograms present in the form of long-bone bosel These bone-to-bone bumps have different shapes and are formed in restricted populations whose populations suffer from mutation in comosome 8 manifested by the lack or insufficiency of the exostosin-1 protein.