Fetal malformations: An improved screening programme
Capros H, Sprinoan N, Usurelu N
Medical center “Galaxia, Chisinau, Moldova

Objective
To evaluate the effectiveness of prenatal diagnosis of fetal malformations in pregnancy based on multivariate approach to maternal serum, ultrasound and cytogenetic markers, to improve the performance of current screening programme in the first trimester of pregnancy through the implementation of a new ultrasound algorithm of morphological evaluation of the fetus.

Methods
This was a prospective study of 1203 pregnant women with increased fetal malformation risk in the I and II trimesters of pregnancy. Selection criteria of pregnant women at risk were: advanced maternal age, pathological obstetric and family history. A multimarker prenatal screening programme was used. We assessed classical structural anomalies and markers of aneuploidy. The individual risk of fetal malformations was calculated.

Results
Fetal anomalies were detected: the central nervous system abnormalities in 37.4%, cardiovascular in 30.7%), renal and urinary tract (8.7%), musculoskeletal (8.3%), digestive (5.8%), maxillofacial (3.9%) and multiple malformations (1.9%). Fetal chromosomal abnormalities: the most common was Down syndrome (1.67%), Edwards syndrome (0.34%), Patau syndrome (0.26%) and unbalanced structural abnormalities (0.43%). Evolution of the serious malformations caused in 3.9% of cases reproductive losses, including miscarriage - in 0.7% of cases and perinatal death - in 3.2% of cases.

Conclusion
Our study allowed to identify fetal malformations in the structure of reproductive losses, to estimate the results of multimarker prenatal screening programme. The individual integrated risk of fetal anomaly associated with chromosomal abnormalities was calculated in order to proceed to invasive methods of diagnosis. Advanced technology, has not only allowed more accurate and earlier detection of anomalies, but has also improved the care and outcome of selected fetus with severe malformations for in-utero interventions.