

Facial clefts are among the most common congenital defects. Their incidence ranges 1 to 500 to 550 births. The etiological factors are diverse. Most often the formation of clefts cause genetic factors together with environmental factors.

Among the genetic factors include the child's sex and genetic predisposition. It discovered several candidate genes that influence the development of orofacial complex. These genes are e.g. $TGF\alpha$, RARA, BCL3, DLX2, MSX1, TGFB3.

Environmental factors are maternal obesity, maternal smoking, alcohol consumption, alcohol, nutritional status of the mother, hypervitaminosis A, folic acid deficiency, effects of pollutants in the workplace and environment, medication teratogenic active drugs, maternal infection, hyperthermia, exposure to ionizing radiation and the effects of stress.

The mechanism of the increased risk of defects in maternal obesity may be unknown diabetes with hyperglycemia and hyperinsulinism, hyperestrogenism a lack of folic acid, which is needed in obese women increased.

Studies on the influence of maternal smoking on the formation of clefts are not consistent in their results.

Alcohol consumption has been repeatedly shown to be a risk while no correlation was found to dose. Increased incidence is evident under fetal alcohol syndrome.

The quality of maternal nutrition, especially inadequate intake of fiber, vitamins, especially vitamin B 6, C and folic acid, minerals, high quality protein and fats, but also excessive intake of certain nutrients, particularly teratogenic Vitamin A increases the risk.

Exposure to certain substances in the environment and in employment as pesticides, aromatic, aliphatic and halogenated hydrocarbons, used primarily as solvents in industrial production also increase the risk.

Drugs with proven teratogenic effects in animal studies or

In humans, certain anticonvulsants, glucocorticoids, compounds with hormonal activity, anticancer drugs, and many others of the different groups of drugs.

Maternal infection during pregnancy can cause birth defects by actual infectious agents or hyperthermia caused by an infection. Agents causing fetal damage are major contributors to syphilis, influenza, measles and rubella. Hyperthermia damages the cell membrane and causes to death cells fail cellular defense mechanisms. The hyperthermia therapy must be used only drugs that are teratogenic as paracetamol, aspirin or ibuprofen.

Ionizing radiation damages the fetus and depending on the dose causing malformation of the fetus to spontaneously abort.

Stress causes leaching of catecholamines and glucocorticoids subsequently in the maternal circulation. Glucocorticoids have been shown to be teratogens.

Preventing the birth of a child with cleft lip and palate is a primary prevention formation and early secondary prevention in the context of prenatal screening. Primary prevention in the entire population is nowadays impossible. The population with an increased risk among methods of prevention include Planned Parenthood supplementation with multivitamin preparations, the choice of the child's sex and avoidance exposure to harmful substances acting in everyday life.

Supplementation with vitamin preparations should be started pre-conception and should contain all the essential vitamins and minerals. In terms of prevention clefts of the face is important especially folic acid, which recommended benefits for the general population of pregnant and lactating women are 0.4 mg / day and risk population of 4 mg / day.

Choosing the sex of the child as a precaution applies to families with high genetic risk, which occurs repeatedly certain type cleft depending gender.

Secondary prevention is done in the context of prenatal screening by ultrasound device.

Amniocentesis and subsequent cytogenetic analysis reveals chromosomal abnormalities such as trisomy 21 and 13, in which the increased incidence of clefts face.

These tests may be the basis of induced abortion, because of this defect arising considerably higher demands on the victim, but especially to his family. Primarily a morphological character defect difficult negative functional consequences on swallowing, breathing, chewing and speech formation. Aesthetically

This is a significant handicap facial triangle, which most affects the overall 10 facial appearance. Approximately 20% of children have a defect associated with other disabilities.

However, an isolated defect is neither lethal nor associated with mental retardation.

Full rehabilitation of these patients requires a multidisciplinary treatment which begins immediately after birth and continues into adulthood. Requires perfect as possible result in terms of removing signs of defects in appearance affected and of speech. Both of these components are the basis of communication and thus the application of human society and quality of life.