INSTITUTE OF INCLUSIVE EDUCATION BSPU

ACADEMIC DISCIPLINE
«HUMAN ANATOMY, PHYSIOLOGY AND PATHOLOGY»

THE CONCEPT OF THE CONGENITAL MALFORMATIONS AND THEIR CLASSIFICATION

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CONCEPTUAL APPARATUS

- congenital malformation
- teratology
- teratogenesis
- gametopathies
- blastopathy
- embryopathies
- fetopathy
- isolated malformations
- systemic malformations
- multiple malformations
Congenital malformation arising in utero persistent morphological change of organ, organ system, body part or the whole organism, going beyond the limits of structure variations and violating its function.
THE CONCEPT OF THE CONGENITAL MALFORMATIONS

Teratology

Science that studies the malformations of embryonic development or deformities concerning disorders of the whole organism structure or its individual parts (Big Medical Encyclopedia)
THE CONCEPT OF THE CONGENITAL MALFORMATIONS

Teratogenesis: mechanism of development of congenital malformations

Teratogen: substance or factor that causes abnormal development of the fetus
### Causes of Congenital Malformations

<table>
<thead>
<tr>
<th>The impact of internal (endogenous) factors</th>
<th>The impact of external (exogenous) factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>• biological inferiority of germ cells</td>
<td>• ionizing radiation</td>
</tr>
<tr>
<td>• hormonal disorders</td>
<td>• viral, bacterial infections</td>
</tr>
<tr>
<td>• maternal somatic diseases</td>
<td>• lack of oxygen</td>
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<tr>
<td>• disorders of alimentation</td>
<td>• impacts of certain chemicals</td>
</tr>
</tbody>
</table>
CLASSIFICATION OF CONGENITAL MALFORMATIONS

Classification of congenital malformations by etiological basis

- Genetic
  - Gene
  - Chromosomal
- Environmental
- Multifactorial
Classification of congenital malformations depending on the time of exposure to damaging factors

Gametopathies (germ cells)  
Blastopathy (up to 15 days)  
Embryopathies (2-8 week)  
Fetopathy (from 9 week)
Classification of congenital malformations depending on the sequence of occurrence

Primary
- Isolated
- System
- Multiple

Secondary
### Classification of congenital malformations depending on the frequency of occurrence

<table>
<thead>
<tr>
<th>Category</th>
<th>Frequency Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequent</td>
<td>up to 1:1000</td>
</tr>
<tr>
<td>Moderately frequent</td>
<td>up to 10:10000</td>
</tr>
<tr>
<td>Rare</td>
<td>Up to 10:100000</td>
</tr>
<tr>
<td>Very rare</td>
<td>less than 10:100000</td>
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</tbody>
</table>
Classification of congenital malformations depending on localization

- malformations of the cranium and brain
- malformations of the spinal cord
- malformations of the face and neck
- malformations of the central nervous system and sense organs
- malformations of the circulatory system
- malformations of the respiratory system
- malformations of the digestive system
- malformations of the musculoskeletal system
- malformations of the urinary system
- malformations of genital organs
- malformations of the endocrine gland
- malformations of the skin and its appendages
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