

3. При обнаружении отсутствия у пострадавшего дыхания немедленно начинайте проводить искусственную вентиляцию легких, продолжая ее до тех пор, пока не прибудет бригада скорой помощи [3].

### **Выводы**

Важность знаний и умений по оказанию первой помощи очень велика. Зачастую в первые минуты после инцидента решается судьба пострадавшего человека.

По всей стране сразу после трагедии на предмет пожарной безопасности органами управления начались массовые проверки, формированиями Всероссийской службы медицины катастроф. После трагедии более 20% ночных клубов в России было закрыто.

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## **КЛИНИЧЕСКАЯ МОРФОЛОГИЯ**

УДК 611.068

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**ЧЕРЕП НОВОРОЖДЕННОГО: ОСОБЕННОСТИ РАЗВИТИЯ И  
АНОМАЛИИ**

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**THE SKULL OF A NEWBORN: FEATURES OF DEVELOPMENT AND ANOMALIES**

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**Аннотация.** В статье рассмотрены отличительные особенности строения и развития, аномалии черепа новорожденного ребенка. Приведена и изучена статистика встречаемости аномалий черепа, а также младенческая смертность по причине отклонений в раннем развитии.

**Annotation.** The article deals with the distinctive features of the structure and development, anomalies of the development of the skull of a newborn child. The statistics of the occurrence of skull anomalies, as well as infant mortality due to early development anomalies, are presented and studied.

**Ключевые слова:** кости черепа, роднички, швы, аномалии, отклонения

**Key words:** bones of the skull, fontanelles, sutures, anomaly, abnormalities

**Introduction**

The body of a newborn child has a number of distinctive features. Many organs and systems have not yet reached final development, including the skull, which begins its formation in embryogenesis and develops throughout life.

Developmental abnormalities and congenital anomalies are quite common and in most cases have harmful consequences for the body. Statistical data on neonatal mortality and the incidence of cranial abnormalities were studied in order to study the degree of influence of the disorders on the newborn body

**The goal of the research** is to study the pathologies of the skull, the frequency of their occurrence and the impact of these deviations on the body and the further development of the newborn child.

The skull of a newborn has a number of significant features. The presence of fontanels and the absence of sutures are its most characteristic features. Let's look at them in more detail.

The fontanelle is the non-ossified connective tissue (webbed) areas of the cranial arch. There are six fontanelles in total: two lie along the median line of the cranial vault and 4 fontanels of the lateral.

The largest is the frontal fontanelle (fonticulus anterior). It is diamond-shaped, located between the two parts of the frontal bone and the two parietal bones, overgrown at the 2nd year of life. The posterior fontanel (fonticulus posterior) has a triangular shape. It is located between two parietal bones in front and occipital scales behind; overgrown on the 2nd month of life. Lateral fontanels are paired, two on each side. The anterior wedge-shaped fontanel (fonticulus sphenoidalis) is located at the junction of the large wing of the sphenoid bone with the frontal, parietal bones and the temporal bone scales; It grows up on the 2nd-3rd month of life. Posterior - mastoid fontanel (fonticulus mastoideus) - formed by temporal, parietal bones and occipital scales; It grows up on the 2nd-3rd month of life.

Sometimes there are cases of earlier closure of the large fontanelle, by the age of six months or even earlier. But this situation requires the active supervision of a neurologist, since due to the early closure of the fontanelle, the growth of cranial bones can be disrupted, which will lead to microcephaly. This pathology can be an obstacle to the normal growth of the skull and, accordingly, the development of the brain, since it simply has nowhere to grow.

Let us turn to the consideration of the features of the development of the sutures of the skull.

Sutures between the bones of the cranial vault are not formed, the edges of the bones are even. Only at the 3rd year of the child's life does the development of the teeth begin at the skull bones, which gradually increase and enter the gaps between the teeth of the adjacent bone. This is how jagged seams are formed. From the description of the newborn's skull it is evident that by the time of birth its development is far from over. It continues in subsequent years of life.

When the child passes through the birth canal, the skull bones are superimposed on each other, and after the appearance of the baby the skull is «straightened out», acquiring a more convex shape. The course of labor can significantly change the shape of the child's head. Thus, with severe childbirth, there are sometimes various deformations of the child's skull that can persist for quite a long time.

The most common deformities of the neonatal skull are:

1. Swelling of the soft tissues of the head (disappears after 2-3 days);
2. Cephalomatoma (resolves about a week or more). In case of its occurrence it is necessary to observe a neurologist, a surgeon, a neonatologist.

Early closure of the cranial sutures, which contributes to the limited volume of the skull, its deformation and intracranial hypertension is called craniostenosis.

Types of craniosynostosis:

Sagittal synostosis this is an early fusion of the sagittal suture that runs from the front to the back of the skull. This is the most common type that results in a head shape known as scaphocephaly.

Coronal synostosis this is premature connection of the coronal sutures. It can lead to protrusion of the eye socket and curvature of the nose to the affected side. If the condition is lopsided, the affected side of the skull may look flat, and the other side

will have a convex appearance. The head may look short and broad and the forehead may often be tilted forward.

Metopic synostosis occurs due to premature fusion of the skull in the area of the metopic suture. This is cause trigonocephaly-a triangular appearance of the forehead with a wide back of the skull.

A small skull can cause an increase in intracranial pressure, which in turn is fraught with: development delays, lethargy, cognitive impairment, convulsions, blindness and eye movement problems.

Other abnormalities of the skull:

1. Microcephalia – the skull does not grow because brain stops its development. Cranioschisis – the absence of the vault of the skull. Macrocephalia – great disproportional dimensions of the skull.

2. Hidrocephalia – voluminous skull (when there is a lot cerebrospinal fluid inside the cerebral ventricles).

3. Persistence of the craniopharyngeal canal in the turkish saddle (it contains remnants of the pharyngeal recess), common spinosus and ovale orifices absence spinosus

4. Clinoidocarotid foramen (when the anterior clinoid process is connected with the body of the sphenoid bone).

5. Presence of the paramastoid process (when there is additional process in close relationship with the mastoid one) – extension of the processus jugulari

Let's turn to the statistics.

Studying the statistics of newborn mortality, it can be noted that preterm birth complications is the most common cause of death (34%). Intrapartum related complications is the second most common (24%). Sepsis and meningitis are the cause of death of the newborn in 12% of cases. Pneumonia - in 10% of cases. 8% of deaths are attributed to other causes. Congenital malformations are the cause of neonatal mortality in 12% of cases, along with sepsis and meningitis.

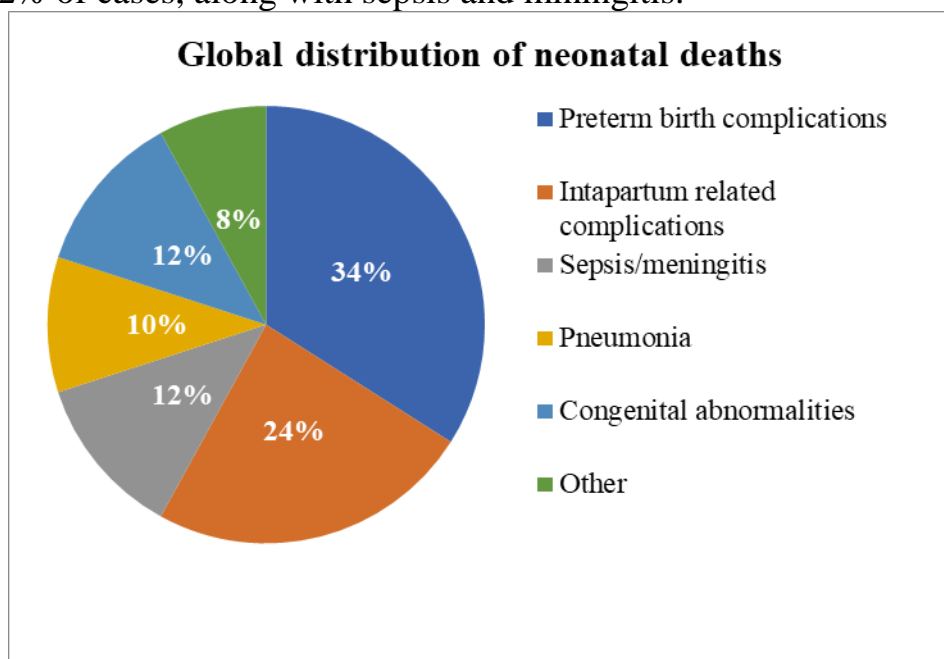


Figure 1. Distribution of neonatal deaths.

Studying the statistical data on the frequency of congenital malformations among newborns, it can be seen that the most common are abnormalities of the cardiovascular, digestive, musculoskeletal system, as well as disorders of the central nervous system, Down syndrome and cumulative malformations.

Conclusion: Based on the studied information and analysis of statistical data on the causes of neonatal mortality and the prevalence of malformations among organs and their systems, it can be concluded that developmental abnormalities are quite common and are a common cause of infant death. Deviations in the development of the musculoskeletal system, in particular the skeletal system, occupy a leading position in terms of occurrence. This means that this problem is urgent, and young parents should carefully monitor their child and regularly visit a pediatrician, so as not to miss possible developmental disorders and take possible treatment measures in time.

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