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***Kumar S., Oruganti S.***

# SPINA BIFIDA: AN OVERVIEW, COMPLICATION, THE ROLE OF FOLIC ACID, AND THE POTENTIAL OF STEM CELLS IN PRENATAL SURGERY FOR MYELOMENINGOCELE

***Scientific supervisor: senior lecturer Chepelev S.N.***
*Department of Pathological Physiology*
*Belarusian State Medical University, Minsk*

Spina Bifida is a birth defect brought on by incomplete development of the spine and spinal cord. It is a specific kind of neural tube defect that can be brought on by folic acid deficiency as well as genetic flaws. Myelomeningocele, Meningocele, and Spina Bifida Occulta are the three most prevalent types of Spina Bifida. The most severe form of spina bifida, known as myelomeningocele, is characterized by a cleft in the vertebral column and a corresponding skin defect that exposes the meninges and spinal cord.

Myelomeningocele patients often experience hydrocephalus. When there is an excessive build-up of cerebrospinal fluid (CSF) in the brain as a result of an issue with its formation, flow, or absorption, it happens. Uncertainty exists regarding the precise relationship between hydrocephalus development and neural tube defects. The underlying abnormalities in the brain and spinal cord development linked to neural tube defects, however, are thought to play a role in the emergence of hydrocephalus.

A B-vitamin called folic acid is crucial for a developing embryo's neural tube's healthy development. Folic acid supplements can lower the risk of neural tube defects, such as spina bifida, before and during early pregnancy, according to studies.

The type and severity of spina bifida determine the course of treatment. Surgery is frequently required for myelomeningocele in order to close the opening in the baby's back and safeguard the spinal cord and nerves. To assist in managing the symptoms and complications related to spina bifida, additional treatments may include physical therapy, medications, and assistive devices. In order to manage their condition, people with spina bifida must receive ongoing care from a group of medical experts.

Recent studies have demonstrated us that using stem cells to repair myelomeningocele during prenatal surgery may enhance patient outcomes. The cells in the spinal cord that regulate movement and development are believed to be protected by these stem cells.

In conclusion, a neural tube defect causes the complex condition known as spina bifida. Although the precise pathophysiology of this disorder is not fully understood, it is believed to be connected to genetic flaws and folic acid deficiency. Patients with myelomeningocele frequently develop hydrocephalus, and its onset may be connected to underlying abnormalities in brain and spinal cord development. Spina bifida can be treated with surgery, physical therapy, medication, and assistive technology. Recent studies indicate us that the use of stem cells during prenatal myelomeningocele surgery may enhance patient outcomes.