



The Anatomy and Physiology of Meningocele: Understanding the Condition

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Description

Meningocele is a type of birth defect that affects the spinal cord and the protective membranes surrounding it. It is a neural tube defect that occurs when the neural tube, a structure that forms during the early stages of foetal development, fails to close properly.

During normal foetal development, the neural tube develops into the brain and spinal cord, which are protected by three layers of membranes called the meninges. Meningocele occurs when the outermost layer of the meninges protrudes through an opening in the spine, forming a sac filled with cerebrospinal fluid.

The sac may be covered by a thin layer of skin or a more substantial layer of tissue, depending on the severity of the defect. In some cases, the spinal cord and nerves may also protrude through the sac, leading to more severe symptoms and complications.

Meningocele can affect any part of the spine, but it most commonly occurs in the lower back. The severity of the condition can vary widely, depending on the size and location of the sac, as well as the extent of nerve damage.

Symptoms of Meningocele

Meningocele includes the following symptoms, they are:

A visible sac or lump on the back

A visible sac or lump on the back is one of the most common symptoms of meningocele, a type of neural tube defect that affects the

spinal cord and the protective membranes surrounding it. This sac is filled with cerebrospinal fluid and protrudes through an opening in the spine.

Weakness or paralysis of the legs

Weakness or paralysis of the legs is a common symptom of meningocele, a type of neural tube defect that affects the spinal cord and the protective membranes surrounding it. The spinal cord plays a critical role in transmitting messages between the brain and the rest of the body. When the spinal cord is damaged due to meningocele, it can result in weakness or paralysis of the legs, as well as loss of sensation in the affected area. Rehabilitation and physical therapy may also be recommended to help manage these symptoms and improve quality of life.

Loss of bladder or bowel control

Loss of bladder or bowel control is a serious symptom of meningocele, a type of neural tube defect that affects the spinal cord and the protective membranes surrounding it. The spinal cord plays a crucial role in controlling the functions of the bladder and bowel. When the spinal cord is damaged due to meningocele, it can lead to loss of control over these functions, which can have a significant impact on a person's quality of life.

Hydrocephalus (a build-up of fluid in the brain)

Hydrocephalus is a potential complication of meningocele, a type of neural tube defect that affects the spinal cord and the protective membranes surrounding it. Hydrocephalus is a condition characterized by the build-up of cerebrospinal fluid in the brain, which can increase pressure and cause damage to brain tissue.

Developmental delays or intellectual disability

Developmental delays or intellectual disability are potential long-term complications of meningocele, a type of neural tube defect that affects the spinal cord and the protective membranes surrounding it. These complications can arise due to the damage to the nervous system caused by meningocele.

Conclusion

Treatment for meningocele typically involves surgery to remove the sac and repair the spinal defect. In some cases, additional surgeries may be necessary to address nerve damage or other complications.

Early diagnosis and treatment are essential for improving outcomes and reducing the risk of long-term complications. Prenatal screening and genetic counselling may also be recommended for families at risk of having a child with meningocele or other neural tube defects.