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Neonatal and Pediatric Hydrocephalus

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Objectives: To determine the frequency of hydrocephalus, its causes and treatment outcomes in pediatric patients visiting Pediatric clinic in Tertiary Care Hospitals of Karachi, Pakistan

Aims: The aims of the study was to specify the common causes of hydrocephalus and the treatment outcomes in the pediatric population of Karachi and to determine the interventions required to decrease the incidence of hydrocephalus.

Introduction: Hydrocephalus is a condition that occurs when fluid accumulates in the skull and causes the brain to swell. Brain damage can occur as a result of this. This can lead to developmental, physical, and intellectual impairments. Cerebrospinal fluid (CSF) flows through the brain and spinal cord in normal conditions. Under certain conditions, the amount of CSF in the brain increases, like obstruction in ventricles, increased CSF production or inadequate CSF drainage. In some cases, hydrocephalus starts before a baby is born, Congenital Hydrocephalus. This can result from a birth defect, in which the spinal column doesn't close, genetic abnormality or certain infections mother affected during pregnancy, such as rubella. This condition can also occur in infants and toddlers, called Acquired Hydrocephalus, due to CNS infections such as meningitis; Bleeding in the brain during or shortly after delivery, especially in babies born prematurely; Injuries that occur before, during, or after delivery; Injury or head trauma and CNS tumors. It requires treatment to prevent serious complications, whether shunt insertion or ventriculostomy.

Methodology: This cross-sectional study was conducted from February 2015 - February 2016. Pediatric patients under 2 years of age were recruited in this study. A history and examination form designed from an application "Forms", particularly for the study and was filled by concerned doctors. For data analysis SPSS 16.0 software was used.

Inclusion criteria: Pediatric patients of age ≤ 2 years regardless of gender presenting to pediatric clinic of tertiary care hospitals of Karachi with principal complain of Hydrocephalus were included.

Exclusion criteria: Patients who were having autoimmune disorders and also immune compromised patients were excluded from the study.

Results: Total 73 patients were inspected, out of which 32.88% were male and 67.12% were females. When inquired about the reason of hydrocephalus, 54.79% were due to obstruction of ventricles, 27.40% due to inadequate drainage of CSF and 17.81% due to increased CSF production. Out of 73 patients, 73.97% were the cases of congenital hydrocephalus and 26.03% were of Acquired hydrocephalus. Among these, 32 have birth defects, 13 have genetic abnormality, 10 infant's mothers were infected with rubella, 9 have meningitis, 3 were prematurely delivered, 3 have injury to brain and 3 have CNS tumor. 93.15% were treated by shunt insertion and 6.85% by ventriculostomy. The outcomes of treatment by shunt insertion were not very good as there were 26 shunt failures.

Conclusion: Most of the cases were of congenital hydrocephalus. The prognosis for infants and children with hydrocephalus depends on various factors, including the cause of the hydrocephalus. With early detection and treatment, the prognosis becomes better, though some children suffered from serious complications despite the adequate treatment was provided.

Biography

Sonia Shahid is a final year M.B.B.S student of Karachi Medical and Dental College, Karachi Pakistan. She has been a part of several national and international researches and many are ongoing. She has attended several national and international seminars and conferences. Sonia is an inquisitive student with a passion for education as a power for change and improvement in the healthcare field of her country and is very ambitious in pursuing her career.

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