

Title: Hydrocephalus in infants and complications of CSF of peritoneal shunts And behavioral disorder

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Received Date: September 03, 2022 Accepted Date: September 04, 2022 Published Date: April 30, 2023

Hydrocephalus and hydrocephalus-related problems occupy a large part of current neurosurgical activity, accounting for approximately 35–50 % of pediatric neurosurgical practice. At present, the most frequent treatment for hydrocephalus consists of cerebrospinal fluid (CSF) shunting, especially with ventriculoperitoneal (VP) shunts. Other types of CSF derivations, such as lumboperitoneal, ventriculopleural, ventriculo-gallbladder, subgaleal shunting, etc., continue to be in use, although they are less often utilized. Goal of this study is to identify the complication of VPS, the factors involved in these complications and distributions during the 4 years of follow and compare the results with the literature.

Patients and Methods: Retrospective study of all 277 patient referrals to a paediatric neurosurgical department of Ait IDIR Health Hospital Establishment in Algiers collected between 2010 and 2011 and followed over period of 4 years (from 2012 to 2016). Referral pattern, presenting symptoms and signs, results of computed tomography (CT) scanning, operative findings, and clinical outcome were recorded.

Results: The age of our patient was ranged from 8 days to 24 months. The causes of hydrocephalus were malformations in 34, 29% (95 infants), essential hydrocephalus in 28, 15% (78 infants), post infectious in 20, 57 % (57 infants) and rarely post hemorrhagic and tumors in 16, 96% (47 infants). Over the 6 years of follow, we had noted 61,87% complications. We had an average of 10, 31% complications per year. In literature from 5% to 25% per year depending on the time followed by 50% at 5 years and 100% of complications at 12 years of follow. From 277 infants, we had 5 deaths by meningitis with percentage of 1,80%. Factors involved in the complications of VPD were: valve with 3 components (ventricular catheter, reservoir and abdominal catheter, pressure and design), nature of surgical technique and Patient's conditions (age, skin conditions, comorbidities, abdominal resorbtion, type of hydrocephalus) and family socio-educational level.

Conclusion: Ventriculoperitoneal (VP) shunting of cerebrospinal fluid (CSF) is the standard therapy for the management of hydrocephalus. Shunt-related complications were numerous and difficult both to manage and to avoid. Shunt failure occurs in a proportion as high as 45–50 % during the first year after surgery and had a subsequent estimated incidence of 4–5 % yearly. At the time of placing a CSF shunt, the neurosurgeon must carefully plan the operation or shunt revision, bearing in mind not only the immediate success of the operation but also taking into account the avoidance of possible future complications.