Miethke M.blue for pediatric hydrocephalus

see also CODMAN CERTAS® Plus Programmable Valve for pediatric hydrocephalus

see Codman Hakim programmable valve for pediatric hydrocephalus

Case series

A retrospective single-center study from Heidelberg included pediatric hydrocephalus patients who received an M.blue valve between April 2019 and 2021. Several clinical and biomechanical parameters were documented including complications and revision rates. Flow rate, functional assessment in vertical and horizontal positions, and the extent of depositions inside the valve were analyzed in explanted valves.

Thirty-seven M.blue valves in 34 pediatric patients with hydrocephalus (mean age 2.82 \pm 3.91 years) were included. Twelve valves (32.4%) were explanted during a follow-up period of 27.3 \pm 7.9 months. A one-year survival rate of 89% and an overall survival rate of 67.6% with a valve survival average of 23.8 \pm 9.7 months were observed. Patients with explanted valves (n = 12) were significantly younger, with 0.91 \pm 0.54 years of age on average (P= .004), and showed significantly more adjustment difficulties (P= .009). 58.3% of explanted valves showed deposits in more than 75% of the valve surface despite normal cerebrospinal fluid findings and were associated with a dysfunctional flow rate in vertical, horizontal, or both positions.

The novel Miethke M.blue valve with an integrated gravity unit is efficient in pediatric hydrocephalus with a comparable survival rate. Deposits inside valves could affect its flow rate in different body positions and might lead to dysfunction or difficulties in valve adjustments ¹⁾.

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From:

Issa M, Paggetti F, Seitz A, von Hardenberg A, Unterberg AW, El Damaty A. Initial Clinical Experience and Biomechanical Analysis of a Novel Gravity Unit-Assisted Valve (M.blue) in Pediatric Patients With Hydrocephalus: A Retrospective Study With Two Years of Follow-up. Neurosurgery. 2023 Mar 7. doi: 10.1227/neu.000000000002446. Epub ahead of print. PMID: 36880771.

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