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The impact of a nursing care protocol in the management of External Ventricular Derivation (EVD) in a Pediatric Neurosurgery unit

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Introduction: External Ventricular Derivation (EVD) is an important device used in the transitory treatment of hydrocephalus in inpatient conditions. It requires specific and permanent care from everyone in the pediatric neurosurgery unit team, but above all from the nursing team. Aim of this work is describe standard procedures of nursing care directed to EVD management and its impact in avoiding complications and adverse effects.

Methods: A protocol of specific procedures of nursing care related to EVD management was applied under the supervision of three nurses of the institution at the pediatric neurosurgery unit during 2012. This protocol included keeping the zero level of the reservoir bag aligned with the medium point of an imaginary line situated between the lateral extremity of the orbit and the external auditory meatus, corresponding to the Monroe foramen level; adjusting the height of the system following neurosurgical team guidance respecting intracranial pressure limits; manipulating the system as less as possible and always under aseptical conditions; emptying the collecting bag every 24 hours and registering the CSF volume as well as its general appearance (clear, hemorrhagic, turbid, etc.); neurological status assessment emphasizing intracranial hypertension signs; adjusting the height of the system after changing of the head position; closing of the drainage system during any transportation or during intense cry, education of mothers or accompanying caregivers about the standard procedures and careful manipulation of the child; change of dressing at the catheter insertion at the skin every 48 hours or earlier if necessary and use of transparent dressing when more appropriate.

Results: With this protocol of nursing care, a very low frequency of complications and adverse effects was observed. Only 4 cases of EVD accidental loss were registered, from a total 83 patients treated with this device during 2012. There was a general perception of improving of the accompanying person's skills to deal with the EVD, feeling more secure and comfortable.

Conclusions: There is an important impact of the quality of nursing care in the management of EVD devices in a pediatric neurosurgery unit, contributing to avoid complications and adverse effects.