Neurodevelopmental outcomes of infants with Vein of Galen aneurismatic malformation

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Objective. Vein of Galen aneurismatic malformation (VGAM) is a rare congenital anomaly characterized by an arteriovenous shunting of the choroidal system draining into the vein of Galen forerunner. Reliable long-term data on neurodevelopmental outcome are still lacking.

Our objective is to report developmental functioning assessed through The Bayley Scales of Infant and Toddler Development-Third Edition (Bayley-III) in patients with VGAM.

Materials and Methods. We conducted an observational retrospective study collecting medical data from the electronic medical records during the study period April 2020-April 2022.

Developmental outcome was assessed using three domains (cognitive, language, motor) of Bayley-III Scales at 6 months of age.

Results. A total of 3 infants with VGAM (100% male, 0% female) were included in the study.

Bayley-III Scales were performed at a mean age of 6.6 months (**Table 1**).

No decrease in cognition (Mean Mental Developmental Index: 100) and language domains (Mean Language Score: 105) was detected in our cohort.

We were able to detect a decrease in motor skills in 1 patient (33.3%) showing a motor Development Index of 73 at 6.6 months of age.

Conclusions. Infants with VGAM may display poorer motor development at 6 months.

Our study emphasizes the relative importance of Bayley-III Scores to be routinely used in a clinical setting to assess the development of children with VGAM.

Early identification of delay is critical to improve early intervention in order to minimize impairment.

Table 1.

	Age(days) at first embolization	Age(days) at second embolization	Age(months) at Bayley-III evaluation	Bayley-III Cognitive Score	Bayley-III Motor Score	Bayley-III Language Score
Case 1	10	17	6.6	90	73	103
Case 2	30	Not performed	6.3	95	91	106
Case 3	42	Not performed	6.9	115	91	106