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Abstract:

OBJECTIVES: Conventional neonatology practice is to place umbilical venous catheters (UVCs) in central position and to limit the use of low-lying catheters. Our objectives were to describe the practices and complications associated with UVCs and to evaluate the type of infusates used with either UVC position.

STUDY DESIGN: A retrospective chart review was performed at four neonatal intensive care units to identify neonates who underwent UVC placement over a 2-year period. Infant demographics, UVC position, catheter days, fluid and medication characteristics, and specific complications were extracted.

RESULTS: A total of 2,011 neonates who underwent UVC placement were identified during the 2-year period. Of these, 641 UVCs (31.9%) were identified in the low-lying position. Centrally positioned UVCs were associated with lower gestational age and were left in situ for a longer duration than low-lying UVCs. Infusions of hyperosmolar solutions and vasopressors

were significantly higher in central UVCs, though they were used in a significant number of low-lying UVCs. Complications, while not statistically different, were three times higher in low-lying UVCs.

CONCLUSION: Despite conventional teaching, low-lying UVCs were used in nearly one-third of infants in this cohort. Parenteral nutrition, antibiotics, and vasopressors were infused through central and low-lying UVCs. There was no statistically significant difference in complication rates between UVC positions.

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Reference:

El Ters, N., Claassen, C., Lancaster, T., Barnette, A., Eldridge, W., Yazigi, F., Brar, K., Herco, M., Rogowski, L., Strand, M. and Vachharajani, A. (2018) Central versus Low-Lying Umbilical Venous Catheters: A Multicenter Study of Practices and Complications. *American Journal of Perinatology*. December 19th.

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