

Without compromising future central venous access sites, transhepatic venous lines had superior duration of service without increased thrombosis, thrombolytic use, or insertion site complications relative to central venous lines. Transhepatic venous catheters had a higher infection rate, and further investigation into the etiology is warranted” Marshall et al (2017).

Abstract:

OBJECTIVES: Children with congenital heart disease may require long-term central venous access for intensive care management; however, central venous access must also be preserved for future surgical and catheterization procedures. Transhepatic venous catheters may be an useful alternative. The objective of this study was to compare transhepatic venous catheters with traditional central venous catheters regarding complication rate and duration of catheter service.

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DESIGN: Retrospective review of 12 congenital heart disease patients from September 2013 to July 2015 who underwent placement of one or more transhepatic venous catheters.

SETTING: Single freestanding pediatric hospital located in the central United States.

PATIENTS: Pediatric patients with congenital heart disease who underwent placement of transhepatic venous catheter.

INTERVENTIONS: Cohort’s central venous catheter complication rates and duration of catheter service were compared with transhepatic venous catheter data.

MEASUREMENTS AND MAIN RESULTS: Twelve patients had a total of 19 transhepatic venous lines. Transhepatic venous lines had a significantly longer duration of service than

central venous lines ($p = 0.001$). No difference between the two groups was found in the number of documented thrombi, thrombolytic burden, or catheter sites requiring wound care consultation. A higher frequency of infection in transhepatic venous lines versus central venous lines was found, isolated to four transhepatic venous lines that had a total of nine infections. All but one was successfully managed without catheter removal. The difference in the proportion of infections to catheters in transhepatic venous lines versus central venous lines was significant ($p = 0.0001$), but no difference in the rate of infection-related catheter removal was found.

CONCLUSIONS: Without compromising future central venous access sites, transhepatic venous lines had superior duration of service without increased thrombosis, thrombolytic use, or insertion site complications relative to central venous lines. Transhepatic venous catheters had a higher infection rate, and further investigation into the etiology is warranted.

Reference:

Marshall, A.M., Danford, D.A., Curzon, C.L., Anderson, V. and Delaney, J.W. (2017) Traditional Long-Term Central Venous Catheters Versus Transhepatic Venous Catheters in Infants and Young Children. *Pediatric Critical Care Medicine*. July 25th. .

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