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Nutritional support in the acute care patient post-ventricular assist device placement

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Purpose: There is little information addressing the appropriate route of nutrition support post-ventricular assist device (VAD) placement. Concerns for using enteral nutrition secondary to poor gastrointestinal perfusion exist. The objective of this study was to 1) assess nutrition support given to critical patients post-VAD placement, and 2) evaluate tolerability and outcomes in patients who received oral, enteral, or parenteral nutrition.

Methods: A retrospective chart review assessed nutrition support given in the acute phase defined as post-operative days 1-8 following VAD placement. A VAD registry was used to identify patients who received a VAD between 1992 and 2004. Data collection included: type of nutrition support, ventilator days, days with renal failure, days with hyperglycemia, hospital length of stay (LOS), and intensive care unit (ICU) LOS.

Results: Thirty-seven patients receiving a VAD were identified; 21 patients received an oral diet, 9 patients received enteral nutrition (EN), and 7 received parenteral nutrition (PN). No statistical differences in patient demographics were observed. Outcome data are reported in Table 1. The average ICU LOS and hospital LOS was shorter in the enteral group than the parenteral group; however, this was not statistically significant.

Conclusion: Patients post-VAD placement were able to tolerate enteral nutrition either orally or via tube feedings. VAD patients are critically ill patients post placement; however, parenteral nutrition is not warranted due to poor gastrointestinal perfusion.

Table 1.

Days	Oral (N = 21)	EN (N = 9)	PN (N = 7)	<i>p</i> value
Ventilator support	21 ± 1.2	6.0 ± 2.1	4.1 ± 2.4	< 0.05
Hyperglycemia (BG > 120 mg/dL)	3.9 ± 2.5	4.7 ± 2.7	3.4 ± 2.2	0.21
Renal failure (Scr > 2 mg/dL)	0.8 ± 2.0	0.2 ± 0.7	1.1 ± 3.0	0.51
Elevated total bilirubin (TB > 2 mg/dL)	2.6 ± 3.4	3.9 ± 3.6	6.6 ± 3.0	< 0.01
Hospital LOS	103.5 ± 63	87.3 ± 44	123.6 ± 53	0.061
CU LOS	24.2 ± 23	39.8 ± 26	41.0 ± 16	