Title: Effect of Vitamin K Administration in Cirrhotic Patients with Coagulopathy

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Introduction: The impact of vitamin K administration on clinical outcomes, such as bleeding and thrombosis, in cirrhotic patients with coagulopathy is not well established. This study aimed to compare rates of clinical outcomes post-vitamin K administration in patients stratified by baseline INR.

Methods: This retrospective cohort study evaluated patients with cirrhosis and baseline INR > 1.3 admitted to the VA St. Louis Health Care System from 1 January 2003 to 31 December 2018 administered vitamin K within 72 hours of baseline INR. The primary outcome was the bleeding event rate (ISTH definition) in patients with baseline INR > 2 compared to those with baseline INR 1.3-2. Secondary outcomes include rate of thrombotic events and percent/absolute change in INR. A multivariate analysis evaluated factors for independent association with bleeding events. Variables with $p<0.2$ were included in a multivariate logistic regression model.

Results: Fifty-two patients were included in the analysis: 39 patients with baseline INR 1.3-2 and 13 patients with INR > 2. Baseline characteristics between groups were similar except for greater incidence of hepatorenal syndrome and higher MELD score among patients with baseline INR > 2. Bleeding events occurred in 14/39 (35.9%) patients with INR 1.3-2 and 2/13 (15.4%) patients with INR > 2 (p=0.3). No thrombotic events were reported. INR decreased in 19/39 (48.7%) patients with baseline INR 1.3-2, and 8/13 (61.6%) patients with INR > 2 (p=0.52). Death within 30 days of admission occurred in 12/39 (30.8%) patients with INR 1.3-2 and 8/13 (61.5%) patients with INR >2 (p=0.048).

Conclusions: Bleeding event rates and changes in INR after vitamin K administration were similar among cirrhotic patients with coagulopathy regardless of baseline INR.