E0503 - Safety and Efficacy of Anticoagulation in Management of Non-Tumoral Portal Vein Thrombosis in Patients With Cirrhosis: A Review of Literature and Meta-Analysis

Ascension St. John Hospital

Bola Nashed, MD; Talal Bazzi, MD; Hussein Gharib, MD; Mohamed Issa, MD; Sara Bebawy, MD; Mohammed Barawi, MD

Ascension St. John Hospital, Detroit, Michigan

bola.nashed@ascension.org

Introduction

- Current guidelines suggests the use of anticoagulation for treating portal vein (PV) thrombosis in patients with cirrhosis especially for recent occlusive or partially occlusive (>50% obstruction of the lumen) thrombosis of the main PV or mesenteric veins.
- The decision is usually made on a case-by-case basis because of lack of data about the safety of anticoagulation in these patients.
- We investigated the safety and efficacy of anticoagulation in non-tumoral portal vein thrombosis in patients with cirrhosis.

Methods

- We conducted a meta-analysis that included included 12 prospective and retrospective cohort studies with a total of 997 patients.
- We compared the rates of portal vein recanalization, bleeding events, and mortality between patients with portal vein thrombosis on top of cirrhosis who received anticoagulation versus those who did not.
- Data were analyzed using fixed or random effects models depending upon measures of heterogeneity. Pooled treatment effects for means were estimated using the inverse variance method and for relative risks, the Mantel-Haenszel method. Data were analyzed using R v. 4.1.1

Baseline characteristics

- The proportion of patients in Child-Turcotte- Pugh (CTP) Classes A and B were not significantly different between groups.
- The proportion in Class C was significantly higher in the placebo group RR 0.65, 95% CI 0.49-0.85, p<0.005.
- Superior mesenteric vein (SMV) involvement was significantly higher in the treatment group RR 1.27, 95% CI 1.06-1.53, p<0.05.

Figure 1. RR of complete recanalization was significantly higher in the treatment group

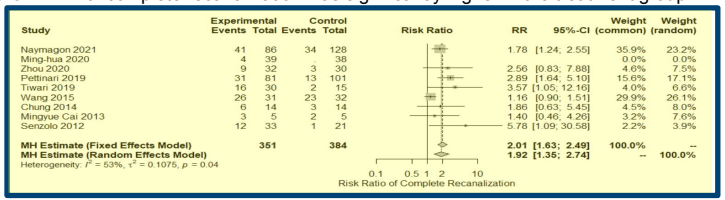


Figure 2. Progression of the portal vein thrombosis was higher in the placebo group

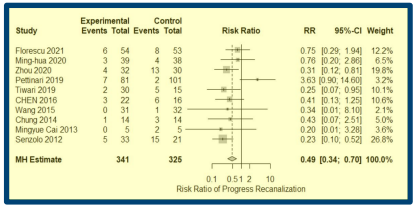


Figure 3. Rate of variceal bleeding was significantly higher in the placebo group

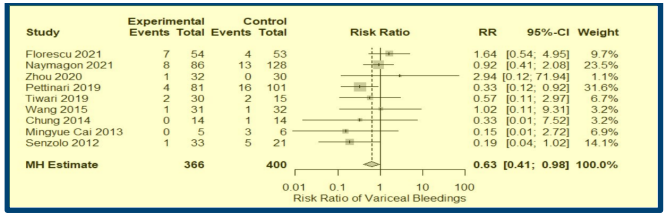
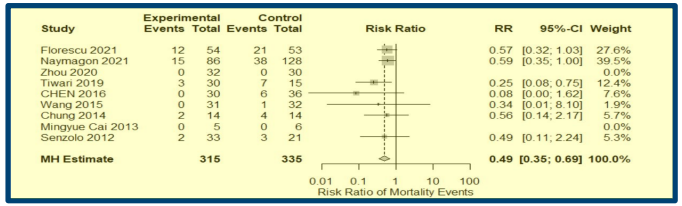


Figure 4. Mortality was significantly higher in the control group



Outcomes

- Complete portal vein recanalization was significantly higher in patients who received anticoagulation compared to those who did not: 32% vs 16.7%; relative risk (RR) 1.92, 95% confidence interval (CI) 1.35-2.74; p<0.001.
- Progression of the portal vein thrombosis was significantly lower in the treatment group with RR 0.49; 95% CI 0.34-0.7; p<0.001.
- All bleeding events including portal hypertension-related and non-related were not significantly different between the groups.
- The variceal bleeding rate was significantly lower in the treatment group with RR 0.63; 95% CI 0.41-0.98; p <0.05.
- Mortality was significantly lower in the treatment group versus the no-treatment group: 7.2% vs 15.5%; RR 0.49, 95% CI 0.35-0.69; p<0.001.

Discussion

- In the studies included in our meta-analysis, prescription of anticoagulation was made on a case-by-case basis enforcing the current guidelines.
- The proportion of patients with CTP class C was significantly higher in the control group, perhaps because physicians may be less likely to prescribe anticoagulation for patients with more advanced cirrhosis.
- Because the anticoagulation group had fewer variceal bleeding events, no difference in overall bleeding events including portal hypertension-related and non-related bleeding and lower mortality, we think the use of anticoagulation should be encouraged in patients with more advanced liver disease to decrease the progression of portal vein thrombosis and to reduce mortality.

Conclusion

- Anticoagulation is safe and effective in the treatment of non-tumoral portal vein thrombosis in patients with cirrhosis and is associated with lower mortality.

Reference

Northup, P.G., Garcia-Pagan, J.C., Garcia-Tsao, G., Intagliata, N.M., Superina, R.A., Roberts, L.N., Lisman, T. and Valla, D.C. (2021), Vascular Liver Disorders, Portal Vein Thrombosis, and Procedural Bleeding in Patients With Liver Disease: 2020 Practice Guidance by the American Association for the Study of Liver Diseases. Hepatology, 73: 366-413. https://doi.org/10.1002/hep.31646