

# POTENTIAL IMPACT OF A NEW ANTICOAGULATION TREATMENT ALGORITHM

## IN PATIENTS WITH PORTAL VEIN THROMBOSIS

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### Background

- Portal vein thrombosis (PVT) is associated with significant morbidity and mortality, especially for the cirrhotic population.
- Decisions regarding anticoagulation (AC) can be extremely challenging and there is danger both in exposing patients unnecessarily to the hazards of AC as well as failing to provide AC treatment to those who could benefit from it.
- A new algorithm for AC decision making in PVT was published this year by the American College of Gastroenterology (ACG) but it is unclear whether the new algorithm would have the potential to result in a substantial change in current AC treatment decisions.

### Objective

- To assess the potential impact of applying the new ACG algorithm on AC decision making in patients with PVT.

### Methods

- We conducted an IRB-approved retrospective study of all patients with PVT diagnosed at our institution from May 2014 through August 2019.
- Demographic and clinical variables were recorded including the presence or absence of cirrhosis, a thrombophilic state, mesenteric vein extension, bowel ischemia, esophageal varices and whether or not AC was initiated.
- For each case we then applied the new ACG PVT AC algorithm and determined whether or not the recommendation based on the algorithm concurred with the actual treatment the patient was receiving.

Table 1. Demographic Information (n=77)	n(%)
Age (mean ±SD)	60.9 ± 13.4
Race	
White	66(85.7)
Black	8 (10.4)
Asian	1 (1.3)
Indian	1(1.3)
Native American	1 (1.3)
Gender	
Male	43 (55.8)
Female	34 (44.2)

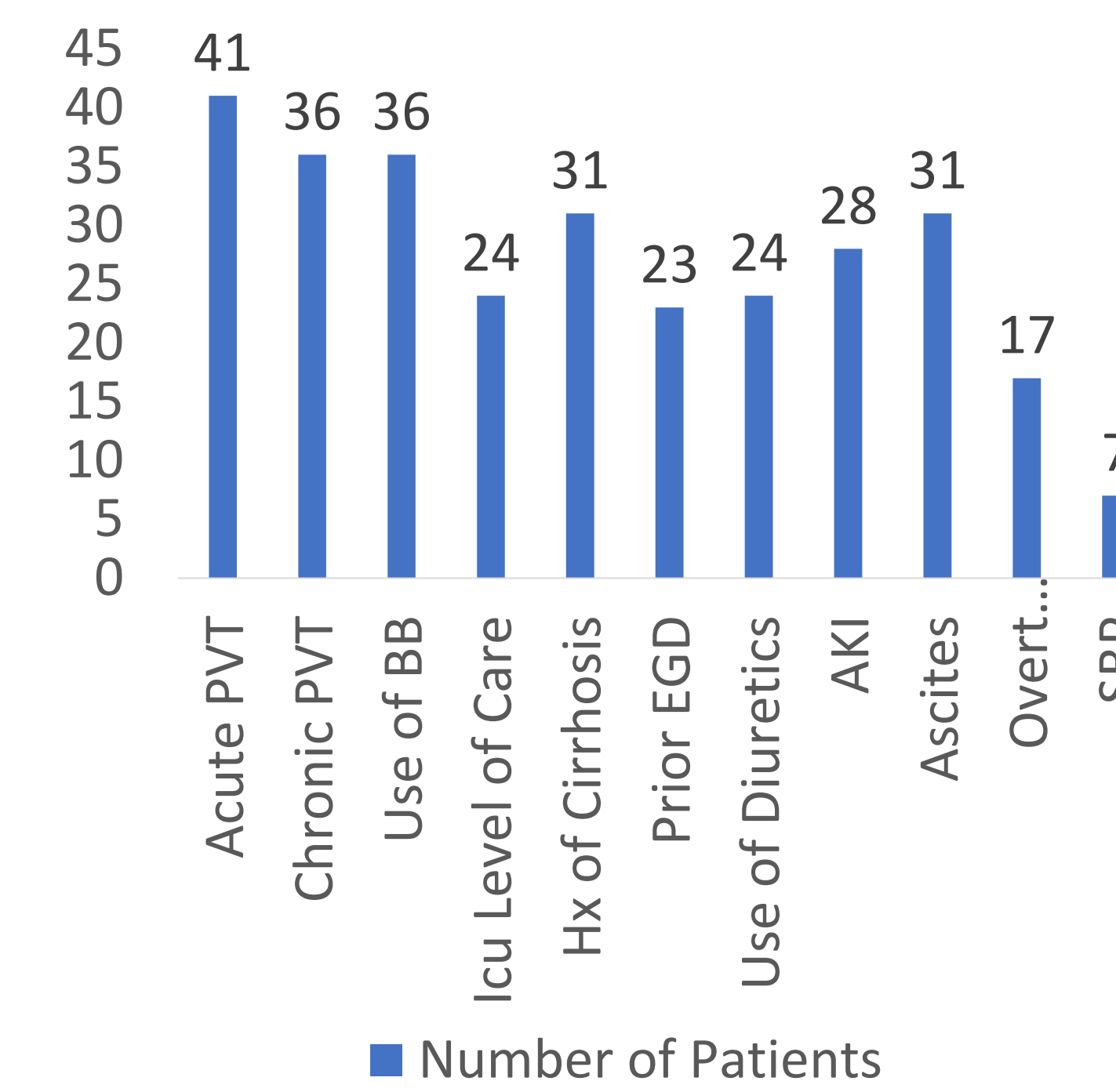


Figure 1. Clinical findings and interventions required.

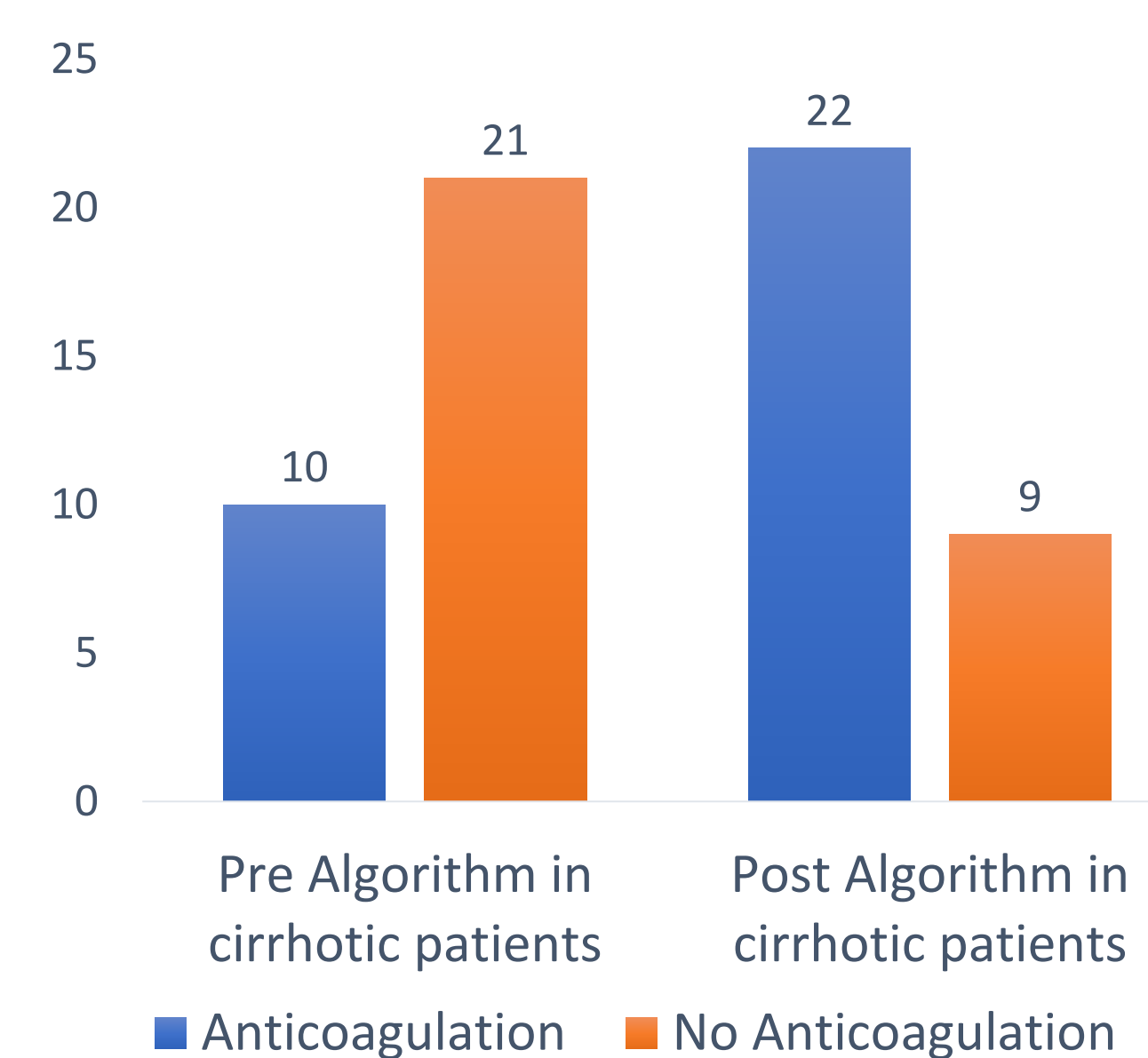


Figure 2. Anticoagulation in cirrhotic patients compared to algorithm recommendation (n=31)

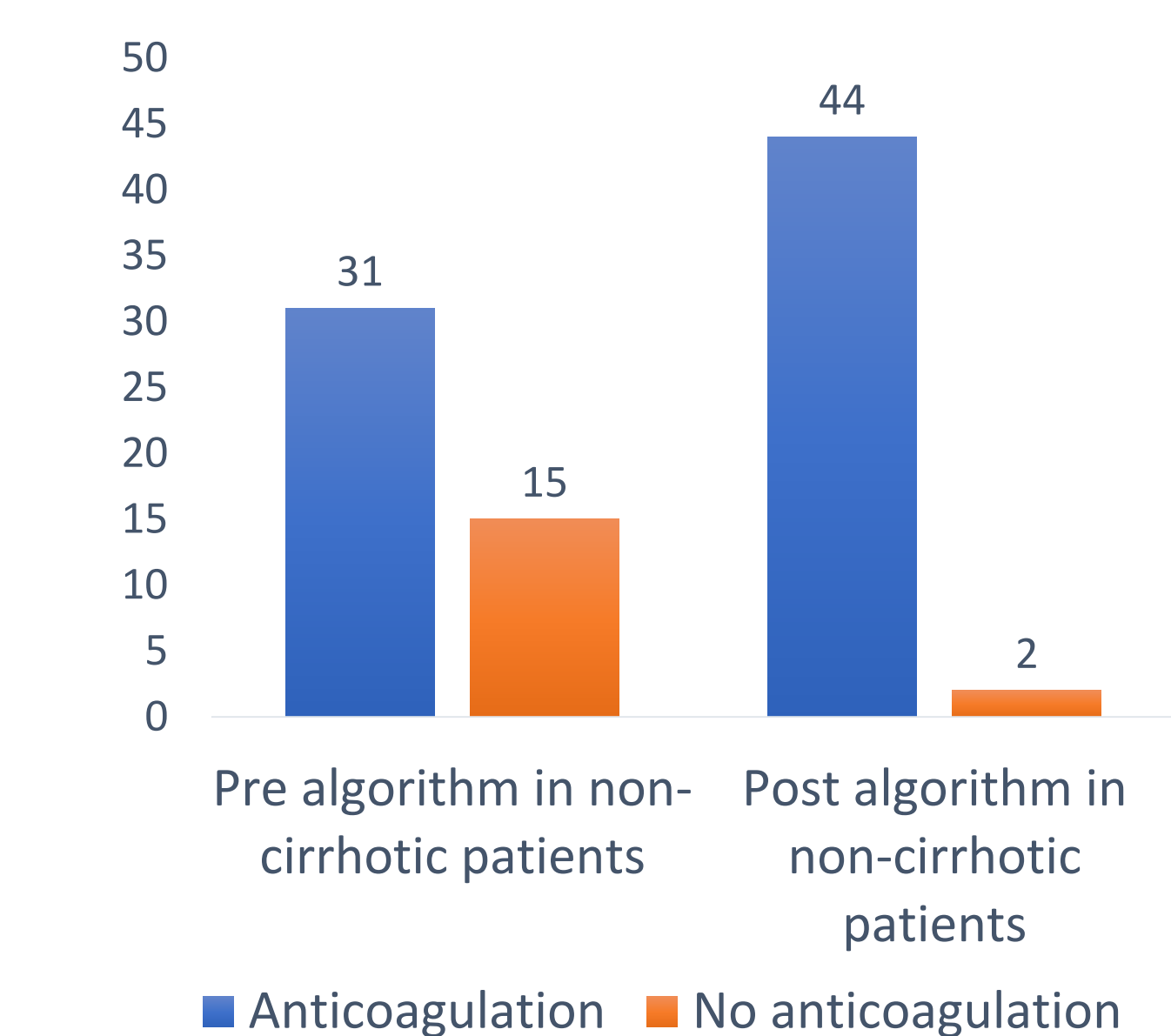


Figure 3. Anticoagulation in non-cirrhotic patients compared to algorithm recommendation (n=46)

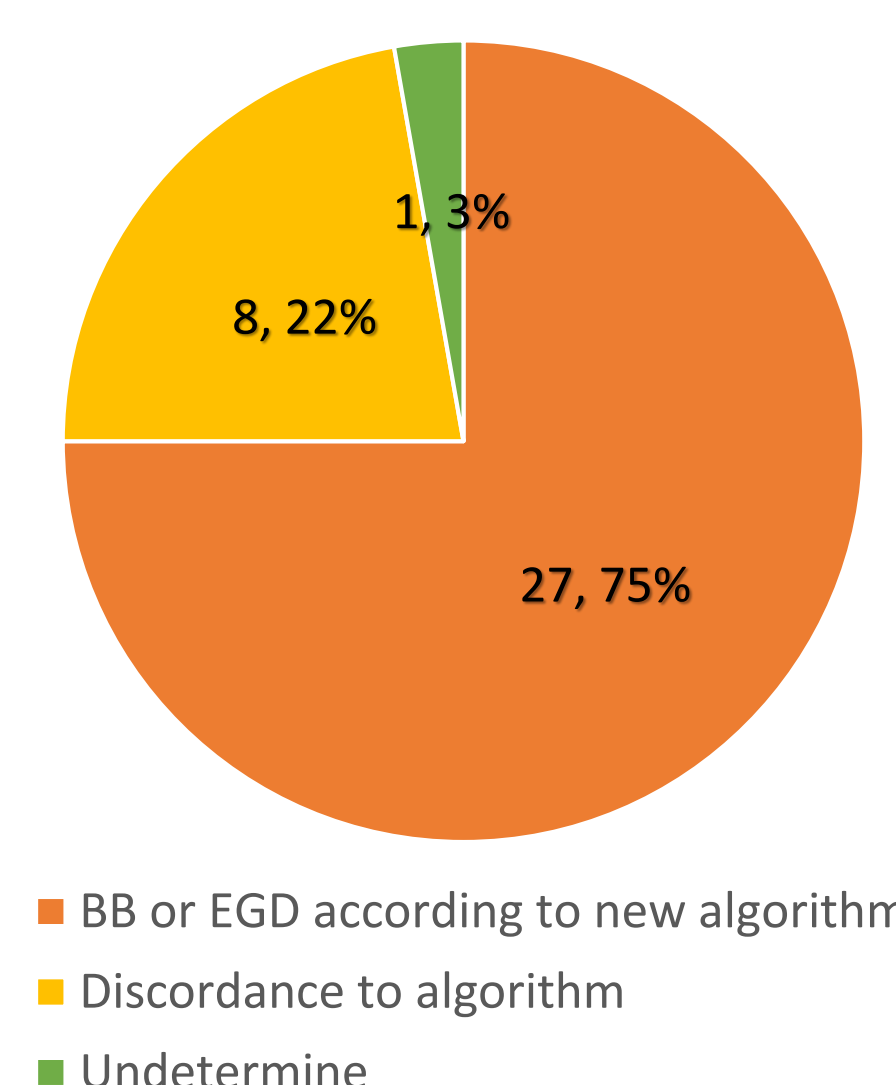


Figure 4. BB and EGD concordance and discordance with new algorithm

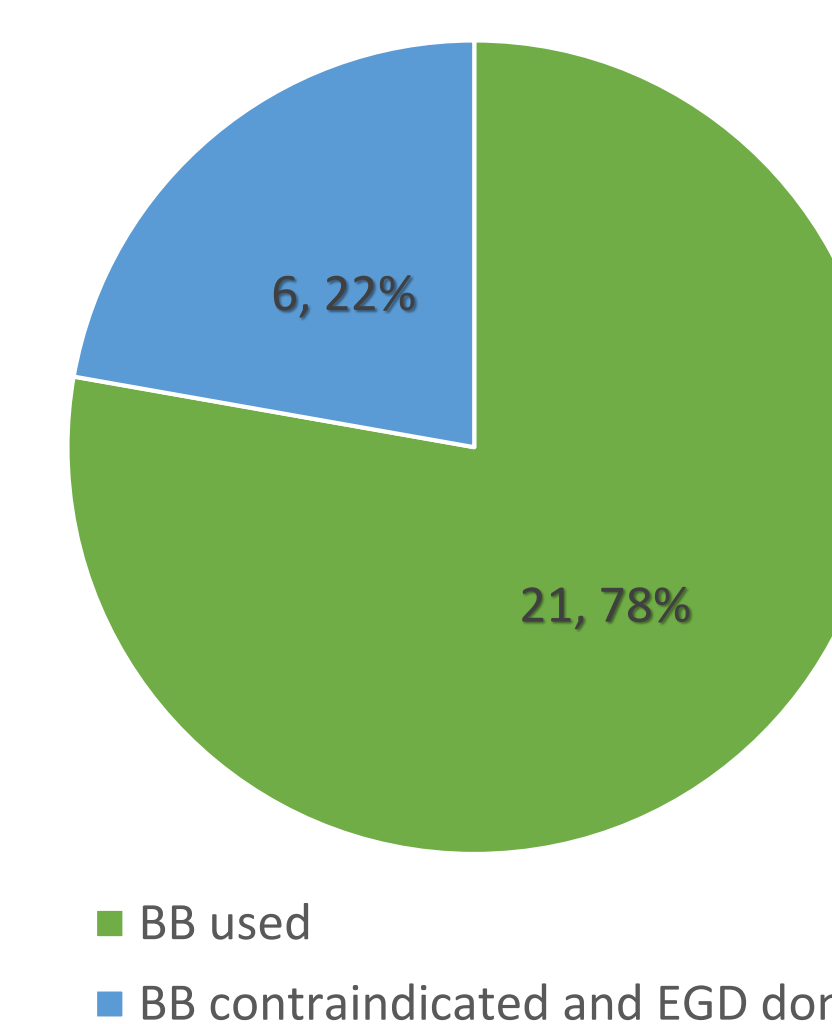


Figure 5. Patients whose management was in concordance with new algorithm and in whom BB was contraindicated and EGD performed

### Results

- A total of 77 patients were identified. Forty-one (53%) received AC therapy.
- Using the ACG algorithm 25 (33%) of the patients had treatment that was discordant with the algorithm's recommendation.
- All of these discordant results were in patients not receiving AC in that the algorithm recommended AC (25 out of 36, 69%).
- We then examined PVT patients with and without cirrhosis. Thirty-one (40%) had cirrhosis and of these 10 were receiving AC and 21 were not.
- Twelve of the 21 cirrhotic patients (57%) who were not on AC were determined to benefit from AC using the algorithm seen in Figure 2.
- Of the 46 non-cirrhotic patients 31 were on AC and 15 were not. With the algorithm 13 of the 15 patients (87%) not on AC were determined to benefit from it as seen in Figure 3.
- We also examined beta blocker (BB) and esophago-gastroduodenoscopy (EGD) use in comparison with what the algorithm recommended and found a 22% discordance rate (Figure 4). For those patients whose management was in concordance with the algorithm 78% received a BB and the remainder underwent EGD (Figure 5).

### Conclusions

Application of a new algorithm for AC decision making in patients with PVT revealed substantial discordance with the therapeutic decisions that had been made prior to its publication. Use of this algorithm in clinical practice has the potential to help many more patients with PVT derive the potential benefits of AC treatment.

### REFERENCE

Simonetto DA et al. ACG Clinical Guideline: Disorders of the Hepatic and Mesenteric Circulation. Am J Gastroenterol 2020;115:18–40.