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Introduction

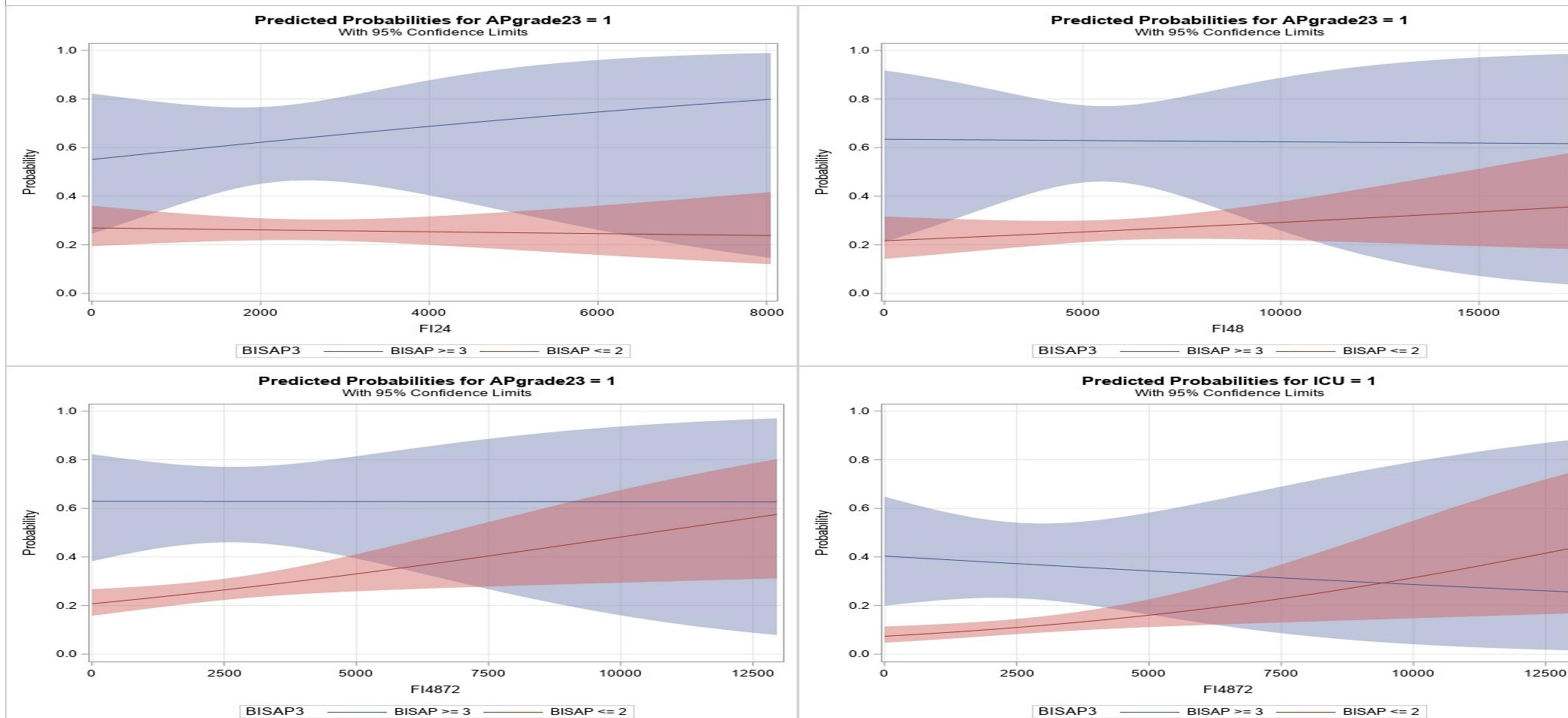
- Currently, there is no adequately powered study has been conducted to assess fluid administration in patients with predicted acute pancreatitis severity on presentation and its effect on acute pancreatitis severity.
- In this study we aimed to evaluate the association between the fluid administration, and its effect on acute pancreatitis severity defined according to Modified Atlanta Criteria in patients with acute pancreatitis stratified by Bedside Index for Severity in Acute Pancreatitis (BISAP) score in the first 24-48 hours.

Methods

- We included adult patients with AP admitted to our tertiary center between 2017 and 2019.
- Patients were stratified into low (≤ 2) and high score groups (≥ 3) based on their Bedside Index for Severity in Acute Pancreatitis (BISAP) scores.
- Volumes of fluid received in the first 24, 48, and 72 hours since admission were measured.
- Outcomes included severity of AP as defined by the modified Atlanta Criteria and ICU stay.

Results

- 444 patients were included; 409 with BISAP of ≤ 2 and 35 with BISAP of ≥ 3 .
- 25.9% of patients with BISAP score ≤ 2 and 62.9% with BISAP score ≥ 3 developed Moderate-Severe (M-S) AP ($p < 0.001$).
- The probabilities of M-S AP by volume of fluid intake in the first 24hrs were not statistically significantly different between BISAP score stratifications ($p = 0.548$).
- A clear trend was observed of lower probability of M-S AP by fluid intake given in the first 48h ($p = 0.069$).
- When stratified by BISAP scores, there was no difference in the probability of developing M-S AP determined by fluid intake in the first 48hrs.
- The probability of M-S AP by fluid intake from 48-to-72hrs was higher in all patients regardless of their BISAP scores ($p = 0.044$). This probability was even higher in patients with low BISAP scores ($p = 0.403$).
- The probability of being admitted to the ICU by fluid intake from 48-to-72 h was higher in patients with low BISAP scores ($p = 0.157$).



Conclusion

- Although not statistically significant, our study suggests that a higher fluid intake in the first 48hrs is associated with lower probability of developing moderate-severe pancreatitis.
- When patients with AP were stratified based on BISAP score, no clear benefit was seen from IV fluids in the first 48hrs.
- The overall trend of better outcomes when both groups combined is likely driven by patients with a higher BISAP scores.
- Additional fluid volume given between 48-72hrs revealed statistically significant worse outcomes for all patients with AP. This was more driven by patients with BISAP scores ≤ 2 .
- Increased probability of being admitted to the ICU with higher fluid intake from 48-72 hours was likely related to increased rates of fluid overload and respiratory failure in these patients with lower BISAP.
- The LOC in both ICU and hospital was likely not driven by IV fluid volume, but rather by the severity of the pancreatitis (higher in patients with BISAP score ≥ 3).
- Limitations include low statistical power, type of IV fluid was not specified, and unadjusted fluid administration by weight.