

SUPPLEMENTARY TABLES

Appendix 1: Predictors of ICU Admission, SIRS Development, and Local Complications

| | | ICU Admission | | SIRS Development | | Local Complications | |
|-----------------------|-----------|---------------------------|-----------------------------|------------------------------|-----------------------------|------------------------------|-----------------------------|
| | | Univariate OR (95% CI) | Multivariate OR (95% CI) | Univariate OR (95% CI) | Multivariate OR (95% CI) | Univariate OR (95% CI) | Multivariate OR (95% CI) |
| Admission PASS > 140 | | 4.7 (2.6, 8.5)* | 4.9 (2.5, 9.4)** | 3.0 (1.9, 4.6)* | 2.9 (1.8, 4.5)** | 3.1 (1.7, 5.7)* | 3.0 (1.6, 5.7)** |
| Hematocrit > 44 | | 2.4 (1.4, 4.2)* | 2.4 (1.2, 4.6)** | 2.1 (1.3, 3.2)* | 1.7 (1.2, 3.3)** | 1.0 (0.5, 1.9) | --- |
| BUN>20 | | 3.4 (1.8, 5.8)* | 2.4 (1.2, 4.8)** | 0.7 (0.4, 1.2) | --- | 0.9 (0.4, 2.0) | --- |
| Comorbidities | | 2.3 (1.4, 3.9)* | 2.3 (1.2, 4.4)** | 0.7 (0.5, 1.2) | --- | 0.8 (0.4, 1.4) | --- |
| Altered Mental Status | | 5.1 (1.8, 13.5)* | 8.9 (2.7, 29.6)** | 1.4 (0.5, 3.9) | --- | 1 (0.2, 4.5) | --- |
| Age | | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) |
| Hispanic | | 0.8 (0.4, 1.6) | 1.9 (0.5, 2.1) | 1.6 (0.9, 3.0) | 1.7 (0.9, 3.2) | 0.8 (0.4, 1.6) | 0.8 (0.4, 1.9) |
| Female | | 0.5 (0.3, 0.8)* | 0.8 (0.4, 1.6) | 0.9 (0.6, 1.4) | 1.2 (0.7, 2.2) | 1 (0.6, 1.8) | 1.2 (0.6, 2.4) |
| Origin | Alcohol | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 |
| | Gallstone | 0.8 (0.4, 1.5) | 1.4 (0.5, 3.0) | 0.9 (0.6, 1.6) | 0.9 (0.5, 1.7) | 0.9 (0.4, 1.8) | 0.8 (0.4, 1.9) |
| | Other | 0.7 (0.4, 1.5) | 0.8 (0.3, 2.0) | 0.5 (0.3, 1.0) | 0.6 (0.3, 1.0) | 0.7 (0.3, 1.6) | 0.7 (0.3, 1.7) |

*p<0.05 in univariate analysis, **p<0.05 in multivariate analysis ---not included in multivariate model given insignificant in univariate model

Appendix 2: PASS versus Glasgow for Additional Inpatient Outcomes

| | Admission Test | AUC | Cutoff | OR | 95% CI | Sensitivity | Specificity | PPV | NPV |
|----------------------|----------------|------|--------|-----|---------|-------------|-------------|------|------|
| ICU Admission | PASS | 0.74 | 140 | 4.7 | 2.6-8.5 | 0.73 | 0.64 | 0.26 | 0.93 |
| ICU Admission | Glasgow | 0.74 | 2 | 4.1 | 2.5-6.9 | 0.38 | 0.92 | 0.47 | 0.89 |
| Local Complication | PASS | 0.71 | 140 | 3.1 | 1.7-5.7 | 0.65 | 0.61 | 0.18 | 0.94 |
| Local Complication | Glasgow | 0.60 | 2 | 1.6 | 0.9-2.9 | 0.20 | 0.97 | 0.03 | 0.98 |
| SIRS after Admission | PASS | 0.66 | 140 | 3.0 | 1.9-4.6 | 0.64 | 0.63 | 0.37 | 0.83 |
| SIRS after Admission | Glasgow | 0.56 | 2 | 1.2 | 0.8-1.9 | 0.12 | 0.85 | 0.25 | 0.74 |

Appendix 3: Predictors of Early ED, Late (>30 days) Readmission

| | Early (<30 days) ER Readmission | | Late (>30 days) Readmission | |
|---------------------|---------------------------------|--------------------------|-----------------------------|--------------------------|
| | Univariate OR (95% CI) | Multivariate OR (95% CI) | Univariate OR (95% CI) | Multivariate OR (95% CI) |
| Discharge PASS > 60 | 3.3 (1.4, 7.8) | 3.2 (1.3, 7.7) | 0.7(0.3, 1.7) | 0.8(0.3, 1.9) |
| Age | 1.0 (1.0, 1.0) | 1.0 (1.0, 1.0) | 1.0(1.0, 1.0) | 1.0(0.9, 1.0) |
| Hispanic | 0.5 (0.2, 1.3) | 0.5(0.2, 1.4) | 1.0 (0.3, 2.6) | 1.0(0.4, 3.0) |
| Female | 1.2 (0.5, 2.9) | 1.6(0.6, 4.4) | 0.6(0.2, 1.3) | 1.2(0.4, 3.4) |

| Etiology | Alcohol | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 | Baseline 1.0 |
|----------|-----------|----------------|----------------|----------------|---------------|
| | Gallstone | 0.4 (0.1, 1.2) | 0.3 (0.1, 1.1) | 0.1 (0, 0.4) | 0.1(0, 0.3) |
| | Other | 1.4 (0.5, 3.7) | 0.9 (0.3, 2.8) | 0.2 (0.2, 1.2) | 0.4(0.2, 1.0) |

REFERENCES

1. Vege SS, Atwal T, Bi Y, et al. Pentoxyfylline Treatment in Severe Acute Pancreatitis: A Pilot, Double-Blind, Placebo-Controlled, Randomized Trial. *Gastroenterology* 2015;149:318-20 e3.
2. Isenmann R, Runzi M, Kron M, et al. Prophylactic antibiotic treatment in patients with predicted severe acute pancreatitis: a placebo-controlled, double-blind trial. *Gastroenterology* 2004;126:997-1004.
3. Johnson CD, Kingsnorth AN, Imrie CW, et al. Double blind, randomised, placebo controlled study of a platelet activating factor antagonist, lexipafant, in the treatment and prevention of organ failure in predicted severe acute pancreatitis. *Gut* 2001;48:62-9.
4. Bakker OJ, van Brunschot S, van Santvoort HC, et al. Early versus on-demand nasoenteric tube feeding in acute pancreatitis. *N Engl J Med* 2014;371:1983-93.
5. Buxbaum JL, Quezada M, Da B, et al. Early Aggressive Hydration Hastens Clinical Improvement in Mild Acute Pancreatitis. *Am J Gastroenterol* 2017;112:797-803.
6. Papp KA, Blauvelt A, Bukhalo M, et al. Risankizumab versus Ustekinumab for Moderate-to-Severe Plaque Psoriasis. *N Engl J Med* 2017;376:1551-1560.
7. Monteleone G, Neurath MF, Ardizzone S, et al. Mongersen, an oral SMAD7 antisense oligonucleotide, and Crohn's disease. *N Engl J Med* 2015;372:1104-13.

8. Wu BU, Batech M, Quezada M, et al. Dynamic Measurement of Disease Activity in Acute Pancreatitis: The Pancreatitis Activity Scoring System. *Am J Gastroenterol* 2017;112:1144-1152.
9. Mounzer R, Langmead CJ, Wu BU, et al. Comparison of existing clinical scoring systems to predict persistent organ failure in patients with acute pancreatitis. *Gastroenterology* 2012;142:1476-82; quiz e15-6.
10. Papachristou GI, Muddana V, Yadav D, et al. Comparison of BISAP, Ranson's, APACHE-II, and CTSI scores in predicting organ failure, complications, and mortality in acute pancreatitis. *Am J Gastroenterol* 2010;105:435-41; quiz 442.
11. Lee PJ, Bhatt A, Lopez R, et al. Thirty-Day Readmission Predicts 1-Year Mortality in Acute Pancreatitis. *Pancreas* 2016;45:561-4.
12. Jencks SF, Williams MV, Coleman EA. Rehospitalizations among patients in the Medicare fee-for-service program. *N Engl J Med* 2009;360:1418-28.
13. Singh VK, Wu BU, Bollen TL, et al. Early systemic inflammatory response syndrome is associated with severe acute pancreatitis. *Clin Gastroenterol Hepatol* 2009;7:1247-51.
14. Banks PA, Bollen TL, Dervenis C, et al. Classification of acute pancreatitis--2012: revision of the Atlanta classification and definitions by international consensus. *Gut* 2013;62:102-11.
15. Marshall JC, Cook DJ, Christou NV, et al. Multiple organ dysfunction score: a reliable descriptor of a complex clinical outcome. *Crit Care Med* 1995;23:1638-52.
16. da Costa DW, Bouwense SA, Schepers NJ, et al. Same-admission versus interval cholecystectomy for mild gallstone pancreatitis (PONCHO): a multicentre randomised controlled trial. *Lancet* 2015;386:1261-1268.
17. Lankisch PG, Weber-Dany B, Hebel K, et al. The harmless acute pancreatitis score: a clinical algorithm for rapid initial stratification of nonsevere disease. *Clin Gastroenterol Hepatol* 2009;7:702-5; quiz 607.
18. Brown A, James-Stevenson T, Dyson T, et al. The panc 3 score: a rapid and accurate test for predicting severity on presentation in acute pancreatitis. *J Clin Gastroenterol* 2007;41:855-8.
19. Afghani E, Pandol SJ, Shimosegawa T, et al. Acute Pancreatitis-Progress and Challenges: A Report on an International Symposium. *Pancreas* 2015;44:1195-210.
20. Lum HD, Studenski SA, Degenholtz HB, et al. Early hospital readmission is a predictor of one-year mortality in community-dwelling older Medicare beneficiaries. *J Gen Intern Med* 2012;27:1467-74.

21. Krumholz HM, Lin Z, Keenan PS, et al. Relationship between hospital readmission and mortality rates for patients hospitalized with acute myocardial infarction, heart failure, or pneumonia. *JAMA* 2013;309:587-93.
22. Zuckerman RB, Sheingold SH, Orav EJ, et al. Readmissions, Observation, and the Hospital Readmissions Reduction Program. *N Engl J Med* 2016;374:1543-51.
23. Vipperla K, Papachristou GI, Easler J, et al. Risk of and factors associated with readmission after a sentinel attack of acute pancreatitis. *Clin Gastroenterol Hepatol* 2014;12:1911-9.
24. Whitlock TL, Repas K, Tignor A, et al. Early readmission in acute pancreatitis: incidence and risk factors. *Am J Gastroenterol* 2010;105:2492-7.
25. Yadav D, O'Connell M, Papachristou GI. Natural history following the first attack of acute pancreatitis. *Am J Gastroenterol* 2012;107:1096-103.
26. Whitlock TL, Tignor A, Webster EM, et al. A scoring system to predict readmission of patients with acute pancreatitis to the hospital within thirty days of discharge. *Clin Gastroenterol Hepatol* 2011;9:175-80; quiz e18.
27. Wu BU, Bakker OJ, Papachristou GI, et al. Blood urea nitrogen in the early assessment of acute pancreatitis: an international validation study. *Arch Intern Med* 2011;171:669-76.
28. Muddana V, Whitcomb DC, Khalid A, et al. Elevated serum creatinine as a marker of pancreatic necrosis in acute pancreatitis. *Am J Gastroenterol* 2009;104:164-70.
29. Brown LA, Sofer T, Stilp AM, et al. Admixture Mapping Identifies an Amerindian Ancestry Locus Associated with Albuminuria in Hispanics in the United States. *J Am Soc Nephrol* 2017;28:2211-2220.