Articles That Changed My Practice Inpatient 2022

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Leading Internal Medicine, Improving Lives
Washington Chapter

DISCLOSURES

- No known conflicts of interest
- Articles published between June 2021 to September 2022 were reviewed
- I’m human…and these articles were selected on opinion

ACP American College of Physicians Leading Internal Medicine, Improving Lives | Washington Chapter

Case #1

35M presents with mild acute pancreatitis.

Standard Approach

- Aggressive IV Fluids (250-500mL/hr)
- Immediate feeding if tolerated
- Evaluate/Treat underlying cause

Which of these has been challenged recently?

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Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

Published in *NEJM*

September 15, 2022

de-Madaria et al

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

E. de-Madaria, J.L. Buxbaum, P. Maisonneuve, A. García García de Paredes, P. Zapater, L. Guilabert, A. Vaillo-Rocamora, M.Á. Rodríguez-Gandía, J. Donate-Ortega, E.E. Lozada-Hernández, A.J.R. Collazo Moreno, A. Lira-Aguilar, L.P. Llovet, R. Mehta, R. Tandel, P. Navarro, A.M. Sánchez-Pardo, C. Sánchez-Marin, M. Cobreros, I. Fernández-Cabrera, F. Casals-Seoane, D. Casas Deza, E. Lauret-Braña, E. Martí-Marqués, L.M. Camacho-Montaño, V. Ubieto, M. Ganuza, and F. Bolado, for the ERICA Consortium*

ABSTRACT

BACKGROUND

Early aggressive hydration is widely recommended for the management of acute pancreatitis, but evidence for this practice is limited.

METHODS

At 18 centers, we randomly assigned patients who presented with acute pancreatitis to receive goal-directed aggressive or moderate resuscitation with lactated Ringer's solution. Aggressive fluid resuscitation consisted of a bolus of 20 ml per kilogram of body weight, followed by 3 ml per kilogram per hour. Moderate fluid resuscitation consisted of a bolus of 10 ml per kilogram in patients with hypovolemia or no bolus in patients with normovolemia, followed by 1.5 ml per kilogram per hour in all patients in this group. Patients were assessed at 12, 24, 48, and 72 hours, and fluid resuscitation was adjusted according to the patient's clinical status. The primary outcome was the development of moderately severe or severe pancreatitis during the hospitalization. The main safety outcome was fluid overload. The planned sample size was 744, with a first planned interim analysis after the enrollment of 248 patients.

RESULTS

A total of 249 patients were included in the interim analysis. The trial was halted owing to between-group differences in the safety outcomes without a significant difference in the incidence of moderately severe or severe pancreatitis (22.1% in the aggressive-resuscitation group and 17.3% in the moderate-resuscitation group; adjusted relative risk, 1.30; 95% confidence interval [CI], 0.78 to 2.18; P=0.32). Fluid overload developed in 20.5% of the patients who received aggressive resuscitation and in 6.3% of those who received moderate resuscitation (adjusted relative risk, 2.85; 95% CI, 1.36 to 5.94, P=0.004). The median duration of hospitalization was 6 days (interquartile range, 4 to 8) in the aggressive-resuscitation group and 5 days (interquartile range, 3 to 7) in the moderate-resuscitation group.

CONCLUSIONS

In this randomized trial involving patients with acute pancreatitis, early aggressive fluid resuscitation resulted in a higher incidence of fluid overload without improvement in clinical outcomes. (Funded by Instituto de Salud Carlos III and others; WATERFALL ClinicalTrials.gov number, NCT04381169.)

The authors' full names, academic degrees, and affiliations are listed in the Appendix. Dr. de-Madaria can be contacted at emadaria@umh.es or at Servicio de Aparato Digestivo, Hospital General Universitario Dr. Balmis, Calle Pintor Baeza 12, Alicante 03010, Spain.

*A list of the trial collaborators in the ERICA Consortium is provided in the Supplementary Appendix, available at NEJM.org.

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CME at NEJM.org

Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

Population

- Individuals with Mild Acute Pancreatitis

Intervention

- Moderate fluids

Comparator

- Aggressive fluids

Outcome

- Advancement to Moderate Severe or Severe Pancreatitis
- Volume Overload

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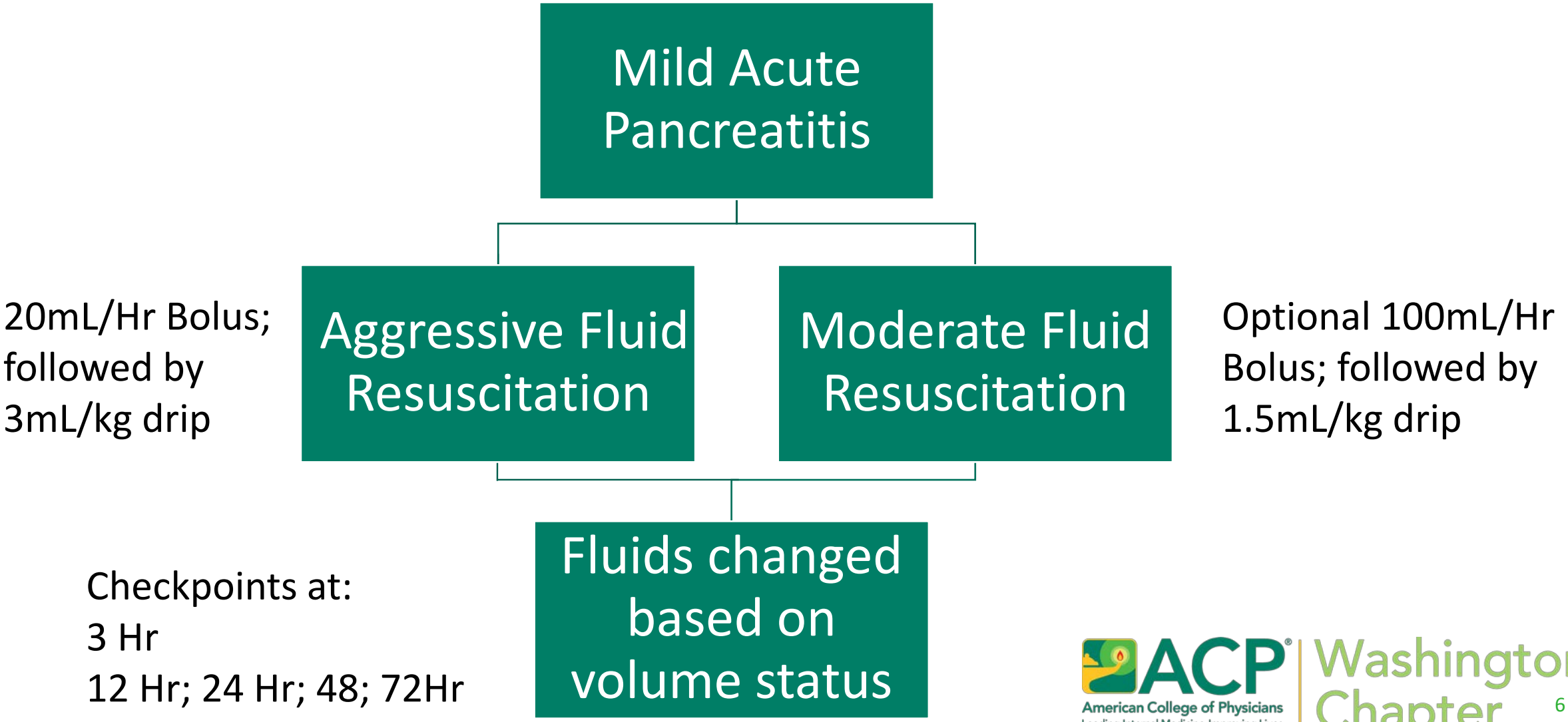


Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

Primary Outcome

No worsening of pancreatitis in moderate IVF compared to aggressive IVF

Primary Safety Outcome

Volume Overload

Moderate	Aggressive	ARR	NNH	P Value
6.3%	20.5%	14.2%	7	0.004

Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

Strengths	Weaknesses
Allowed rate adjustments based on patient status	Feeding was delayed by 12 hours
No worsening of pancreatitis with less fluids	Trial stopped early
Less volume overload	Strict exclusion criteria

Aggressive or Moderate Fluid Resuscitation in Acute Pancreatitis

Supportive	Conflicting
De-madaria et al (2011)[4]	Buxbaum et al (2017)[1]
Singh et al (2017)[11]	

In Mild Acute Pancreatitis….

10mL/kg bolus if volume depleted

Followed by 1.5mL/kg/hour rate

How It Changed My Practice

Case #2

58M is admitted to the hospital with a STEMI.

Standard Approach

- PCI
- Beta blocker
- ACE-Inhibitor
- Cardiac Rehab
- Lifestyle modifications
- Cardiomyopathy evaluation

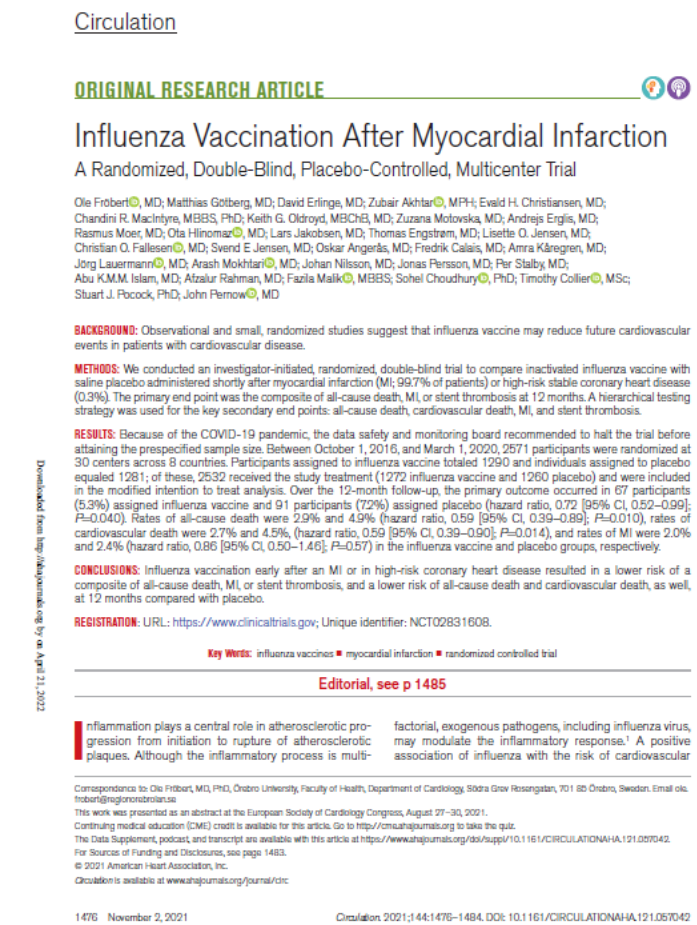
What other treatment modality has recently shown reduced mortality post-myocardial infarction?

Influenza Vaccine After Myocardial Infarction

Published in *Circulation*

November 2, 2021

Fröbert et al



Circulation

ORIGINAL RESEARCH ARTICLE

Influenza Vaccination After Myocardial Infarction

A Randomized, Double-Blind, Placebo-Controlled, Multicenter Trial

Ole Fröbert, MD; Matthias Götberg, MD; David Erlinge, MD; Zubair Akhtar, MPH; Evald H. Christiansen, MD; Chandini R. MacIntyre, MBBS, PhD; Keith G. Oldroyd, MBChB, MD; Zuzana Motovska, MD; Andrejs Erglis, MD; Rasmus Moer, MD; Ota Hlinomaz, MD; Lars Jakobsen, MD; Thomas Engstrøm, MD; Lisette O. Jensen, MD; Christian O. Fallesen, MD; Svend E Jensen, MD; Oskar Angerås, MD; Fredrik Calais, MD; Amra Kåregren, MD; Jörg Lauermann, MD; Arash Mokhtari, MD; Johan Nilsson, MD; Jonas Persson, MD; Per Stalby, MD; Abu K.M.M. Islam, MD; Afzalur Rahman, MD; Fazila Malik, MBBS; Sohel Choudhury, PhD; Timothy Collier, MSc; Stuart J. Pocock, PhD; John Pernow, MD

BACKGROUND: Observational and small, randomized studies suggest that influenza vaccine may reduce future cardiovascular events in patients with cardiovascular disease.

METHODS: We conducted an investigator-initiated, randomized, double-blind trial to compare inactivated influenza vaccine with saline placebo administered shortly after myocardial infarction (MI; 99.7% of patients) or high-risk stable coronary heart disease (0.3%). The primary end point was the composite of all-cause death, MI, or stent thrombosis at 12 months. A hierarchical testing strategy was used for the key secondary end points: all-cause death, cardiovascular death, MI, and stent thrombosis.

RESULTS: Because of the COVID-19 pandemic, the data safety and monitoring board recommended to halt the trial before attaining the prespecified sample size. Between October 1, 2016, and March 1, 2020, 2571 participants were randomized at 30 centers across 8 countries. Participants assigned to influenza vaccine totaled 1290 and individuals assigned to placebo equaled 1281; of these, 2532 received the study treatment (1272 influenza vaccine and 1260 placebo) and were included in the modified intention to treat analysis. Over the 12-month follow-up, the primary outcome occurred in 67 participants (5.3%) assigned influenza vaccine and 91 participants (7.2%) assigned placebo (hazard ratio, 0.72 [95% CI, 0.52–0.99]; P=0.040). Rates of all-cause death were 2.9% and 4.9% (hazard ratio, 0.59 [95% CI, 0.39–0.89]; P=0.010), rates of cardiovascular death were 2.7% and 4.5%, (hazard ratio, 0.59 [95% CI, 0.39–0.90]; P=0.014), and rates of MI were 2.0% and 2.4% (hazard ratio, 0.86 [95% CI, 0.50–1.46]; P=0.57) in the influenza vaccine and placebo groups, respectively.

CONCLUSIONS: Influenza vaccination early after an MI or in high-risk coronary heart disease resulted in a lower risk of a composite of all-cause death, MI, or stent thrombosis, and a lower risk of all-cause death and cardiovascular death, as well, at 12 months compared with placebo.

REGISTRATION: URL: https://www.clinicaltrials.gov; Unique identifier: NCT02831608.

Key Words: influenza vaccines ■ myocardial infarction ■ randomized controlled trial

Editorial, see p 1485

Inflammation plays a central role in atherosclerotic progression from initiation to rupture of atherosclerotic plaques. Although the inflammatory process is multifactorial, exogenous pathogens, including influenza virus, may modulate the inflammatory response.[1] A positive association of influenza with the risk of cardiovascular

Correspondence to: Ole Fröbert, MD, PhD, Örebro University, Faculty of Health, Department of Cardiology, Södra Grev Rosengatan, 701 85 Örebro, Sweden. Email ole.frobert@regionorebrolan.se

This work was presented as an abstract at the European Society of Cardiology Congress, August 27–30, 2021.
Continuing medical education (CME) credit is available for this article. Go to http://cme.ahajournals.org to take the quiz.
The Data Supplement, podcast, and transcript are available with this article at https://www.ahajournals.org/doi/suppl/10.1161/CIRCULATIONAHA.121.057042.
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Influenza Vaccine After Myocardial Infarction

Population

- Individuals with Acute Myocardial Infarction during Influenza Season

Intervention

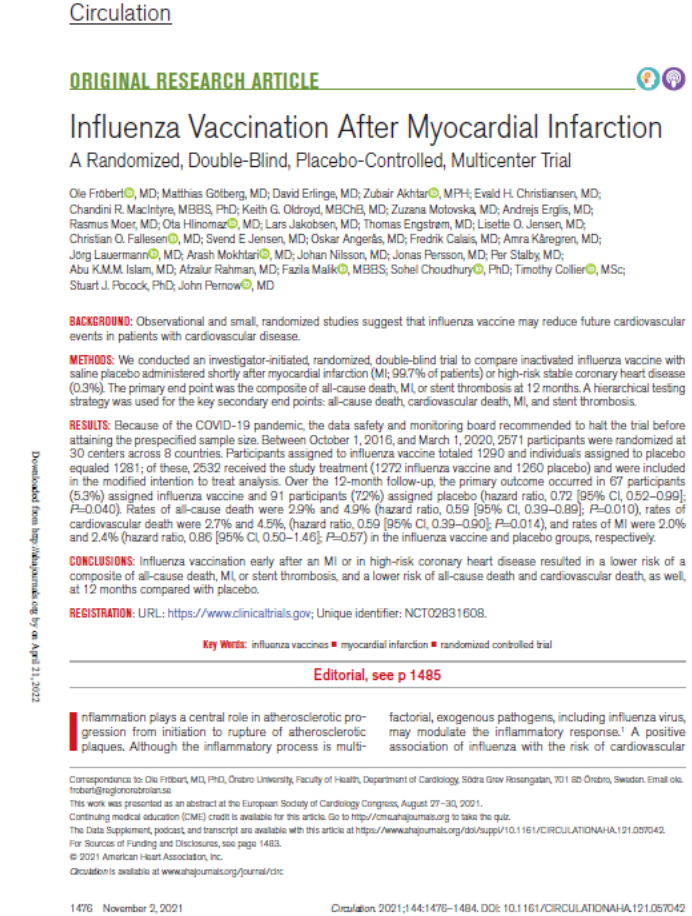
- Administration of Influenza Vaccine within 72 hours

Comparator

- Placebo vaccination

Outcome

- All-cause mortality
- CV death



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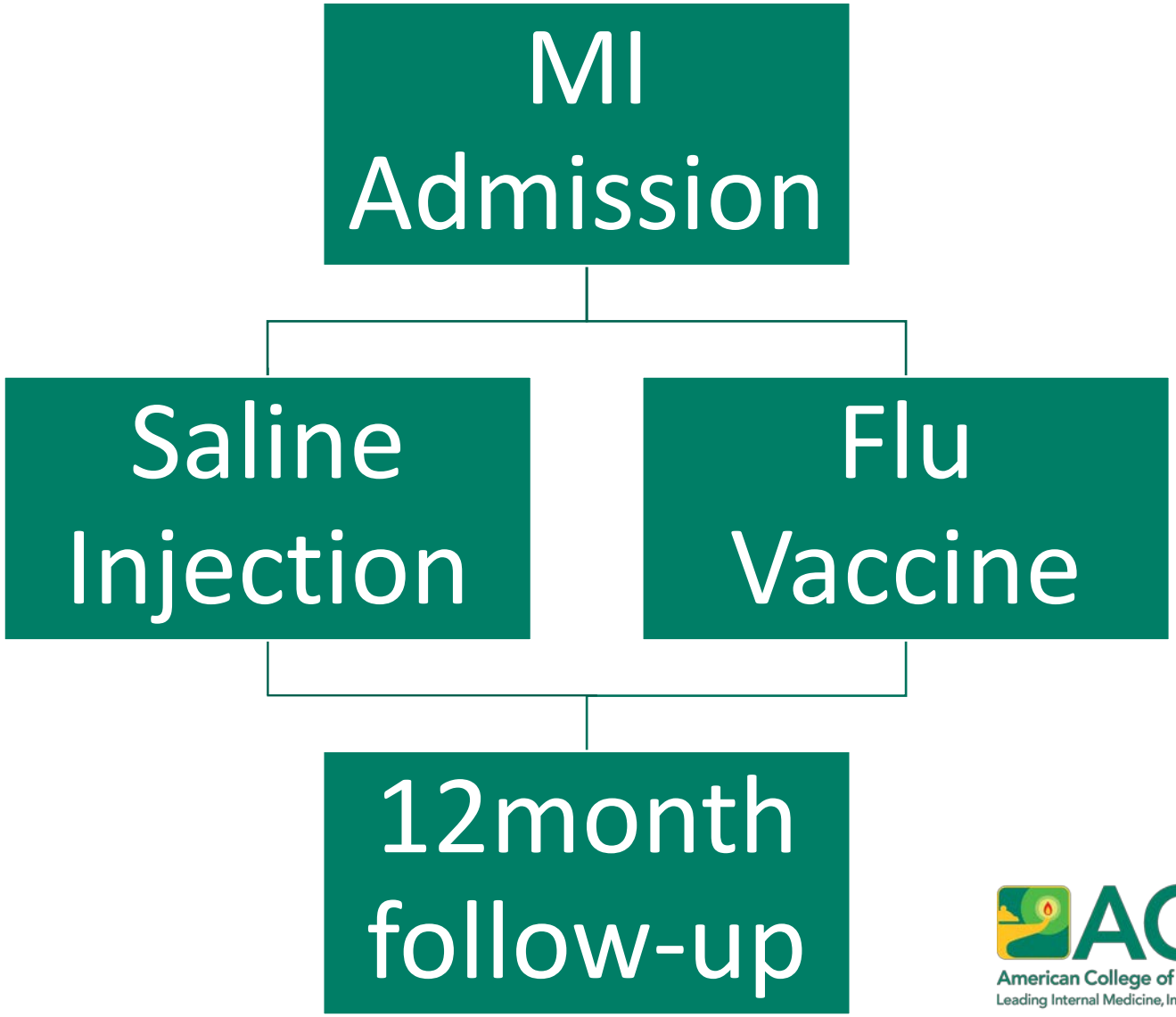
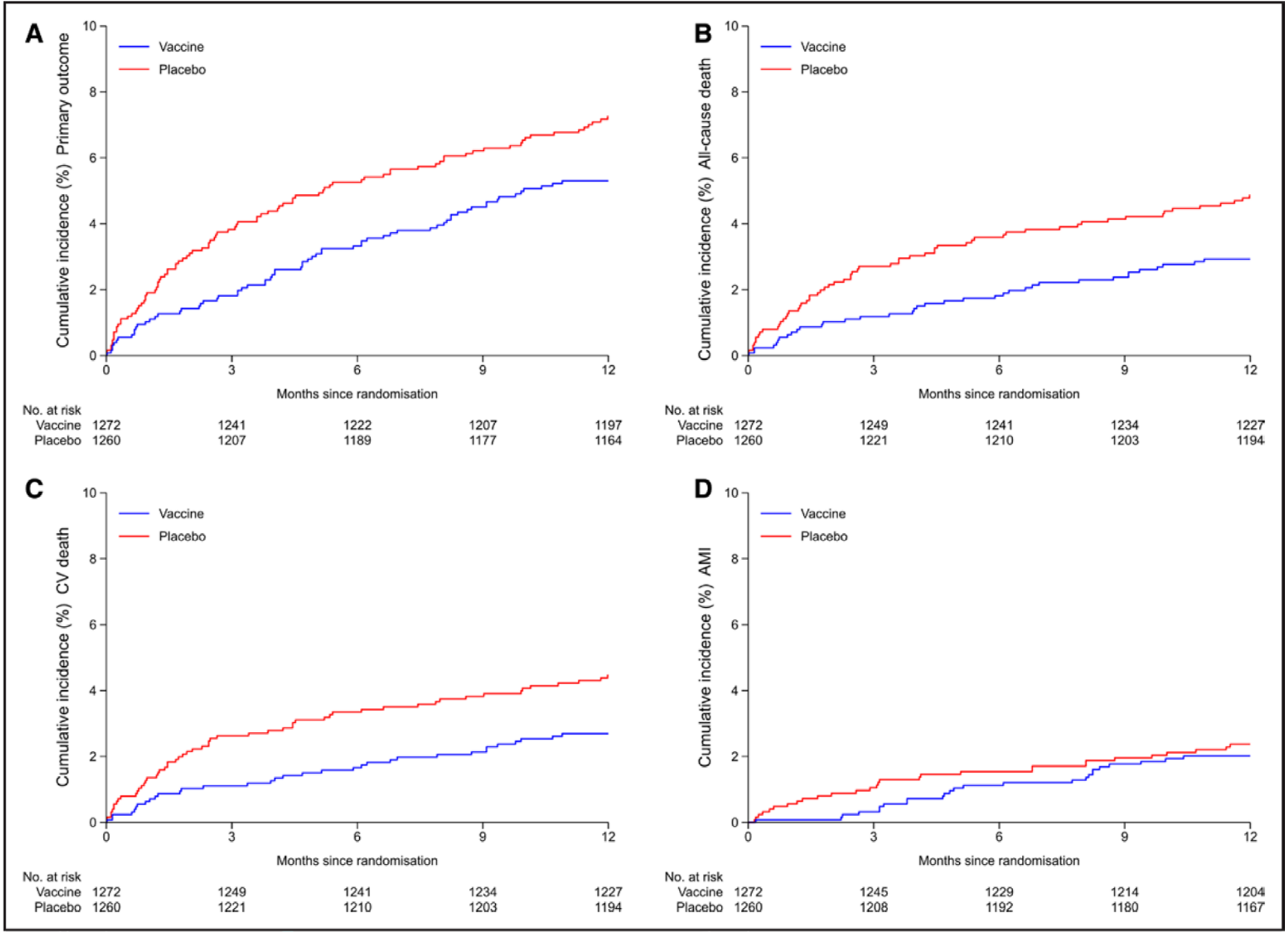
Influenza Vaccine After Myocardial Infarction




A
Cumulative incidence (%) Primary outcome
Vaccine
Placebo
Months since randomisation
No. at risk
Vaccine 1272 1241 1222 1207 1197
Placebo 1260 1207 1189 1177 1164
B
Cumulative incidence (%) All-cause death
Vaccine
Placebo
Months since randomisation
No. at risk
Vaccine 1272 1249 1241 1234 1227
Placebo 1260 1221 1210 1203 1194
C
Cumulative incidence (%) CV death
Vaccine
Placebo
Months since randomisation
No. at risk
Vaccine 1272 1249 1241 1234 1227
Placebo 1260 1221 1210 1203 1194
D
Cumulative incidence (%) AMI
Vaccine
Placebo
Months since randomisation
No. at risk
Vaccine 1272 1245 1229 1214 1204
Placebo 1260 1208 1192 1180 1167

Influenza Vaccine After Myocardial Infarction

Strengths

- Findings consistent across subgroups
- Multiple flu seasons
- Significant reduction of NNT for Flu vaccine

Weakness

- All patients had PCI or angiography

Influenza Vaccine After Myocardial Infarction

Supportive	Conflicting
FLUVACS Study (2004)[6]	FLUCAD Study (2008)[2]
Phrommintikul et al (2011)[8]	
Yedlapati et al (2021)[13]	

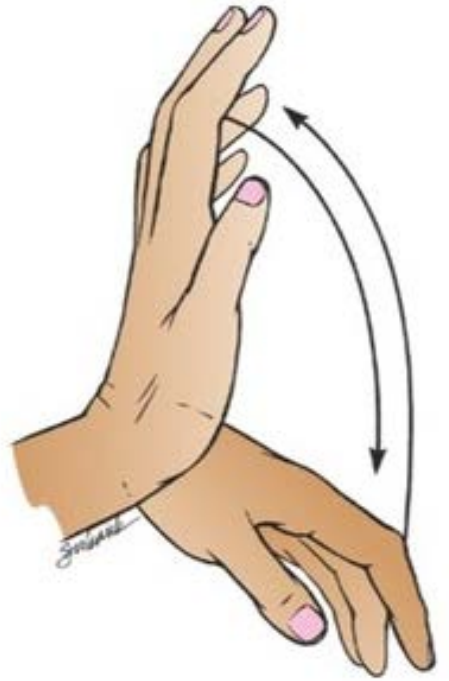
In patients admitted with ACS during Flu Season…

I recommend an influenza vaccine during their hospitalization

How It Changed My Practice

Case #3

62F with history of cirrhosis presents with acute hepatic encephalopathy.



Standard Approach

- Lactulose
- Rifaximin
- Rule out/Treat other causes

What additional treatment may shorten hospitalization & reduce 28-day recurrence of hepatic encephalopathy?

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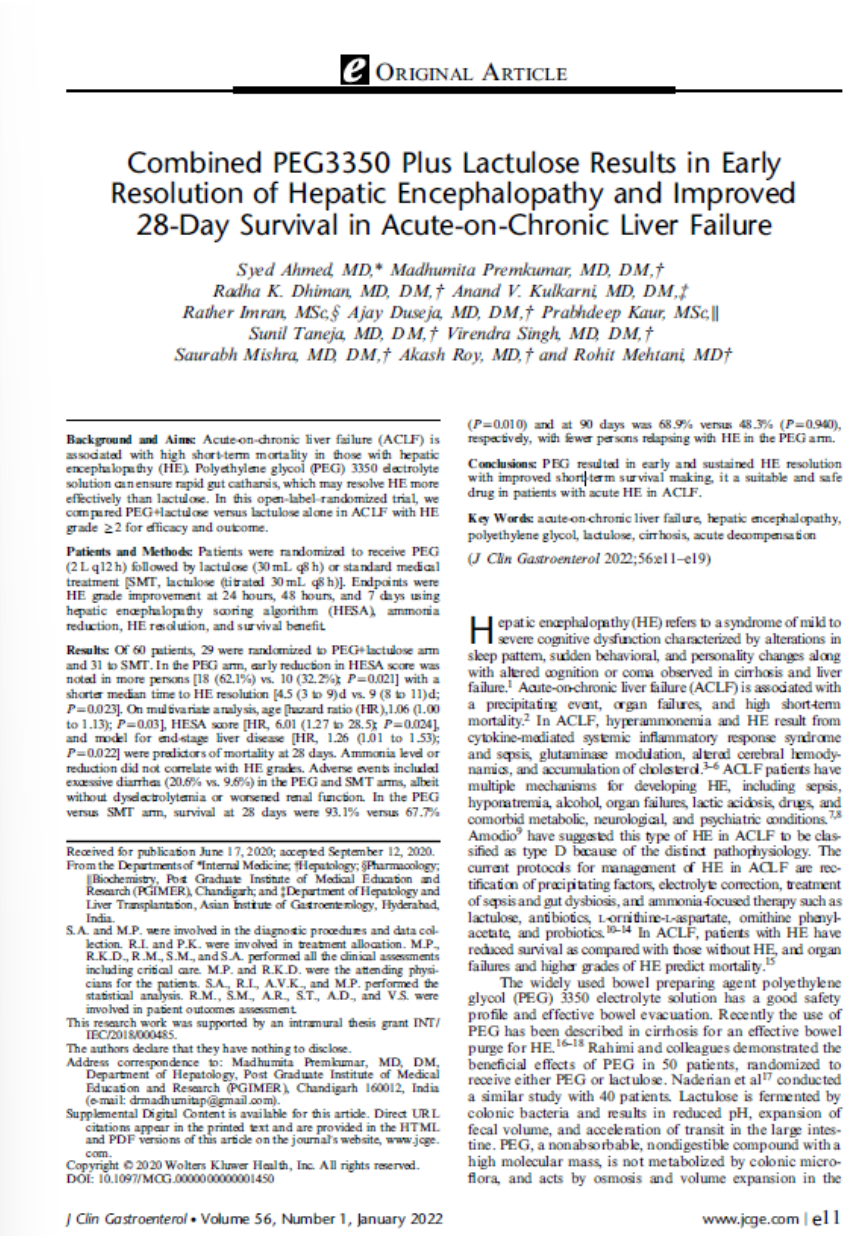
Polyethylene Glycol Plus Lactulose in Hepatic Encephalopathy

Published in *Journal of Clinical Gastroenterology*

January 1, 2022
Ahmed et al

Double Blind, RCT



ORIGINAL ARTICLE

Combined PEG3350 Plus Lactulose Results in Early Resolution of Hepatic Encephalopathy and Improved 28-Day Survival in Acute-on-Chronic Liver Failure

Syed Ahmed, MD, Madhumita Premkumar, MD, DM,† Radha K. Dhiman, MD, DM,† Anand V. Kulkarni, MD, DM,‡ Rather Imran, MSc,§ Ajay Duseja, MD, DM,† Prabhdeep Kaur, MSc,‖ Sunil Taneja, MD, DM,† Virendra Singh, MD, DM,† Saurabh Mishra, MD, DM,† Akash Roy, MD,† and Rohit Mehtani, MD†*

Background and Aims: Acute-on-chronic liver failure (ACLF) is associated with high short-term mortality in those with hepatic encephalopathy (HE). Polyethylene glycol (PEG) 3350 electrolyte solution can ensure rapid gut catharsis, which may resolve HE more effectively than lactulose. In this open-label-randomized trial, we compared PEG+lactulose versus lactulose alone in ACLF with HE grade ≥2 for efficacy and outcome.

Patients and Methods: Patients were randomized to receive PEG (2 L q12 h) followed by lactulose (30 mL q8 h) or standard medical treatment [SMT, lactulose (titrated 30 mL q8 h)]. Endpoints were HE grade improvement at 24 hours, 48 hours, and 7 days using hepatic encephalopathy scoring algorithm (HESA), ammonia reduction, HE resolution, and survival benefit.

Results: Of 60 patients, 29 were randomized to PEG+lactulose arm and 31 to SMT. In the PEG arm, early reduction in HESA score was noted in more persons [18 (62.1%) vs. 10 (32.2%); $P=0.021$] with a shorter median time to HE resolution [4.5 (3 to 9)d vs. 9 (8 to 11)d; $P=0.023$]. On multivariate analysis, age [hazard ratio (HR),1.06 (1.00 to 1.13); $P=0.03$], HESA score [HR, 6.01 (1.27 to 28.5); $P=0.024$], and model for end-stage liver disease [HR, 1.26 (1.01 to 1.53); $P=0.022$] were predictors of mortality at 28 days. Ammonia level or reduction did not correlate with HE grades. Adverse events included excessive diarrhea (20.6% vs. 9.6%) in the PEG and SMT arms, albeit without dyselectrolytemia or worsened renal function. In the PEG versus SMT arm, survival at 28 days were 93.1% versus 67.7% ($P=0.010$) and at 90 days was 68.9% versus 48.3% ($P=0.940$), respectively, with fewer persons relapsing with HE in the PEG arm.

Conclusions: PEG resulted in early and sustained HE resolution with improved short-term survival making, it a suitable and safe drug in patients with acute HE in ACLF.

Key Words: acute-on-chronic liver failure, hepatic encephalopathy, polyethylene glycol, lactulose, cirrhosis, acute decompensation

(*J Clin Gastroenterol* 2022;56:e11–e19)

Hepatic encephalopathy (HE) refers to a syndrome of mild to severe cognitive dysfunction characterized by alterations in sleep pattern, sudden behavioral, and personality changes along with altered cognition or coma observed in cirrhosis and liver failure.[1] Acute-on-chronic liver failure (ACLF) is associated with a precipitating event, organ failures, and high short-term mortality.[2] In ACLF, hyperammonemia and HE result from cytokine-mediated systemic inflammatory response syndrome and sepsis, glutaminase modulation, altered cerebral hemodynamics, and accumulation of cholesterol.[3–6] ACLF patients have multiple mechanisms for developing HE, including sepsis, hyponatremia, alcohol, organ failures, lactic acidosis, drugs, and comorbid metabolic, neurological, and psychiatric conditions.[7,8] Amodio[9] have suggested this type of HE in ACLF to be classified as type D because of the distinct pathophysiology. The current protocols for management of HE in ACLF are rectification of precipitating factors, electrolyte correction, treatment of sepsis and gut dysbiosis, and ammonia-focused therapy such as lactulose, antibiotics, L-ornithine-L-aspartate, ornithine phenylacetate, and probiotics.[10–14] In ACLF, patients with HE have reduced survival as compared with those without HE, and organ failures and higher grades of HE predict mortality.[15]

The widely used bowel preparing agent polyethylene glycol (PEG) 3350 electrolyte solution has a good safety profile and effective bowel evacuation. Recently the use of PEG has been described in cirrhosis for an effective bowel purge for HE.[16–18] Rahimi and colleagues demonstrated the beneficial effects of PEG in 50 patients, randomized to receive either PEG or lactulose. Naderian et al[17] conducted a similar study with 40 patients. Lactulose is fermented by colonic bacteria and results in reduced pH, expansion of fecal volume, and acceleration of transit in the large intestine. PEG, a nonabsorbable, nondigestible compound with a high molecular mass, is not metabolized by colonic microflora, and acts by osmosis and volume expansion in the

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S.A. and M.P. were involved in the diagnostic procedures and data collection. R.I. and P.K. were involved in treatment allocation. M.P., R.K.D., R.M., S.M., and S.A. performed all the clinical assessments including critical care. M.P. and R.K.D. were the attending physicians for the patients. S.A., R.I., A.V.K., and M.P. performed the statistical analysis. R.M., S.M., A.R., S.T., A.D., and V.S. were involved in patient outcomes assessment.

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The authors declare that they have nothing to disclose.
Address correspondence to: Madhumita Premkumar, MD, DM, Department of Hepatology, Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh 160012, India (e-mail: drmadhumitap@gmail.com).
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DOI: 10.1097/MCG.0000000000001450

PEG + Lactulose in Hepatic Encephalopathy

Population

- Individuals with Acute on Chronic Liver Failure with Hepatic Encephalopathy

Intervention

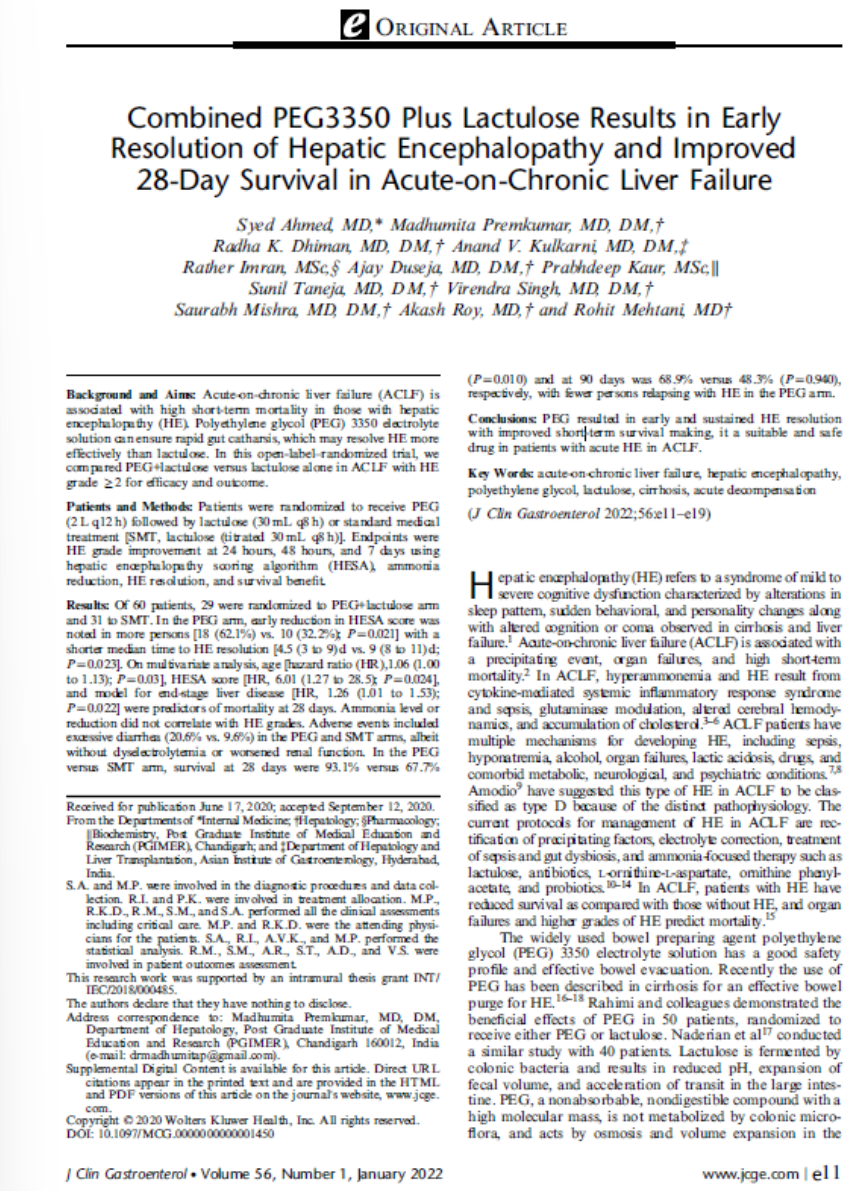
- Polyethylene Glycol Plus Lactulose

Comparator

- Lactulose

Outcome

- Time to Hepatic Encephalopathy resolution
- Survival at 28 Days



ORIGINAL ARTICLE

Combined PEG3350 Plus Lactulose Results in Early Resolution of Hepatic Encephalopathy and Improved 28-Day Survival in Acute-on-Chronic Liver Failure

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Background and Aims: Acute-on-chronic liver failure (ACLF) is associated with high short-term mortality in those with hepatic encephalopathy (HE). Polyethylene glycol (PEG) 3350 electrolyte solution can ensure rapid gut catharsis, which may resolve HE more effectively than lactulose. In this open-label-randomized trial, we compared PEG+lactulose versus lactulose alone in ACLF with HE grade ≥2 for efficacy and outcome.

Patients and Methods: Patients were randomized to receive PEG (2 L q12 h) followed by lactulose (30 mL q8 h) or standard medical treatment [SMT, lactulose (titrated 30 mL q8 h)]. Endpoints were HE grade improvement at 24 hours, 48 hours, and 7 days using hepatic encephalopathy scoring algorithm (HESA), ammonia reduction, HE resolution, and survival benefit.

Results: Of 60 patients, 29 were randomized to PEG+lactulose arm and 31 to SMT. In the PEG arm, early reduction in HESA score was noted in more persons [18 (62.1%) vs. 10 (32.2%); $P=0.021$] with a shorter median time to HE resolution [4.5 (3 to 9) d vs. 9 (8 to 11) d; $P=0.023$]. On multivariate analysis, age [hazard ratio (HR),1.06 (1.00 to 1.13); $P=0.03$], HESA score [HR, 6.01 (1.27 to 28.5); $P=0.024$], and model for end-stage liver disease [HR, 1.26 (1.01 to 1.53); $P=0.022$] were predictors of mortality at 28 days. Ammonia level or reduction did not correlate with HE grades. Adverse events included excessive diarrhea (20.6% vs. 9.6%) in the PEG and SMT arms, albeit without dyselectrolytemia or worsened renal function. In the PEG versus SMT arm, survival at 28 days were 93.1% versus 67.7% ($P=0.010$) and at 90 days was 68.9% versus 48.3% ($P=0.940$), respectively, with fewer persons relapsing with HE in the PEG arm.

Conclusions: PEG resulted in early and sustained HE resolution with improved short-term survival making, it a suitable and safe drug in patients with acute HE in ACLF.

Key Words: acute-on-chronic liver failure, hepatic encephalopathy, polyethylene glycol, lactulose, cirrhosis, acute decompensation

(*J Clin Gastroenterol* 2022;56:e11–e19)

Hepatic encephalopathy (HE) refers to a syndrome of mild to severe cognitive dysfunction characterized by alterations in sleep pattern, sudden behavioral, and personality changes along with altered cognition or coma observed in cirrhosis and liver failure.[1] Acute-on-chronic liver failure (ACLF) is associated with a precipitating event, organ failures, and high short-term mortality.[2] In ACLF, hyperammonemia and HE result from cytokine-mediated systemic inflammatory response syndrome and sepsis, glutaminase modulation, altered cerebral hemodynamics, and accumulation of cholesterol.[3–6] ACLF patients have multiple mechanisms for developing HE, including sepsis, hyponatremia, alcohol, organ failures, lactic acidosis, drugs, and comorbid metabolic, neurological, and psychiatric conditions.[7,8] Amodio[9] have suggested this type of HE in ACLF to be classified as type D because of the distinct pathophysiology. The current protocols for management of HE in ACLF are rectification of precipitating factors, electrolyte correction, treatment of sepsis and gut dysbiosis, and ammonia-focused therapy such as lactulose, antibiotics, L-ornithine-L-aspartate, ornithine phenylacetate, and probiotics.[10–14] In ACLF, patients with HE have reduced survival as compared with those without HE, and organ failures and higher grades of HE predict mortality.[15]

The widely used bowel preparing agent polyethylene glycol (PEG) 3350 electrolyte solution has a good safety profile and effective bowel evacuation. Recently the use of PEG has been described in cirrhosis for an effective bowel purge for HE.[16–18] Rahimi and colleagues demonstrated the beneficial effects of PEG in 50 patients, randomized to receive either PEG or lactulose. Naderian et al[17] conducted a similar study with 40 patients. Lactulose is fermented by colonic bacteria and results in reduced pH, expansion of fecal volume, and acceleration of transit in the large intestine. PEG, a nonabsorbable, nondigestible compound with a high molecular mass, is not metabolized by colonic microflora, and acts by osmosis and volume expansion in the

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S.A. and M.P. were involved in the diagnostic procedures and data collection. R.I. and P.K. were involved in treatment allocation. M.P., R.K.D., R.M., S.M., and S.A. performed all the clinical assessments including critical care. M.P. and R.K.D. were the attending physicians for the patients. S.A., R.I., A.V.K., and M.P. performed the statistical analysis. R.M., S.M., A.R., S.T., A.D., and V.S. were involved in patient outcomes assessment.

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The authors declare that they have nothing to disclose.

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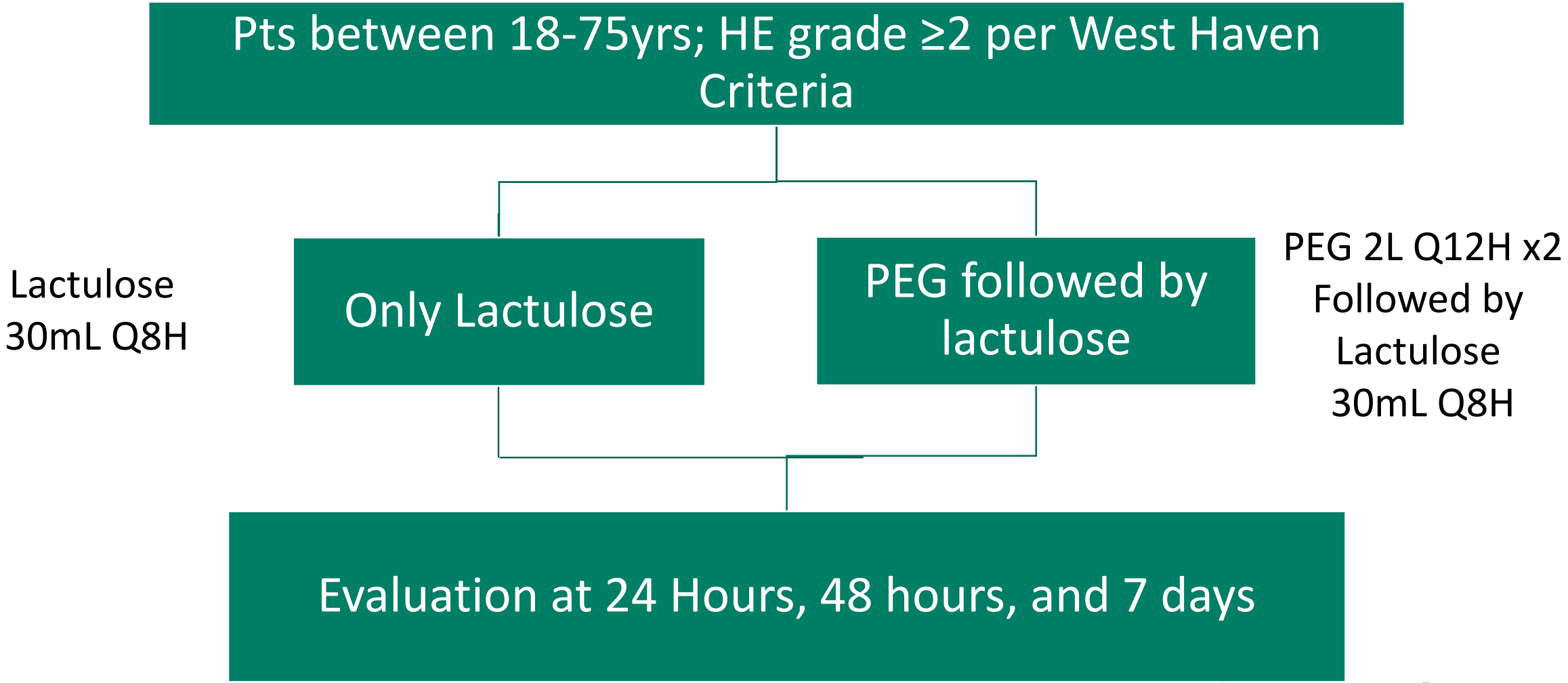
PEG + Lactulose in Hepatic Encephalopathy



PEG + Lactulose in Hepatic Encephalopathy

Improvement of Hepatic Encephalopathy in 7 Days

PEG & Lactulose	Lactulose	ARR	NNT	P Value
65.4%	21.4%	39.3%	2.5	0.002

PEG + Lactulose in Hepatic Encephalopathy

Average Hospital Stay

PEG & Lactulose	Lactulose	P Value
9 days (7-13)	13 days (10-17)	0.008

PEG + Lactulose in Hepatic Encephalopathy

Recurrence of HE in 28 days

PEG & Lactulose	Lactulose	ARR	NNT	P Value
17.1%	58.1%	41%	2.4	0.038

PEG + Lactulose in Hepatic Encephalopathy

Strengths	Weaknesses
Faster HESA Score Reduction	Dose of PEG
Hospital Duration Reduced	Small sample size
Recurrence of Hepatic Encephalopathy Reduced	Pts on Rifaximin were excluded

PEG + Lactulose in Hepatic Encephalopathy

Supportive*	Conflicting
HELP Trial (2014)[9]	-
Shehata et al (2018)[10]	
Li et al (2022)[7]	

In patients admitted with acute hepatic encephalopathy…

I consider the use of high-dose PEG x2 doses followed by standard lactulose

How It Changed My Practice

Most Fun Article…

PICCLES Trial - Quick Review

Cirrhosis-associated muscle cramps

Sip of pickle brine v water

~53% reduction of pain

Am J Gastroenterol. 2022

Tapper et al

Honorable Mentions

EMPEROR-Preserved Trial	• Anker et al • NEJM – October 2021
Intravenous Vitamin C in Adults with Sepsis in the Intensive Care Unit	• Lamontagne et al • NEJM – June 2022
ADVOR Trial	• Mullens et al • NEJM – September 2022
Early Rhythm Control in Patients with Atrial Fibrillation and High Comorbidity Burden	• Rillig et al • Circulation – August 2022
Inpatient Glycemic Control With Sliding Scale Insulin in Noncritical Patients With Type 2 Diabetes: Who Can Slide?	• Migdal et al • Journal of Hospital Medicine – July 2021
Restriction of Intravenous Fluid in ICU Patients with Septic Shock	• Meyhoff et al • NEJM – June 2022
REALITY Trial	• Ducrocq et al • JAMA – February 2021
Discontinuation Of Atorvastatin Use In Hospital Is Associated With Increased Risk Of Mortality In COVID-19 Patients	• Andrews et al • Journal of Hospital Medicine – September 2022
A Unifying Approach for GFR Estimation: Recommendations of the NKF-ASN Task Force on Reassessing the Inclusion of Race in Diagnosing Kidney Disease	• Delgado et al • JASN – July 2021

SUMMARY

In Mild Acute Pancreatitis → Optional 10mL/kg bolus → 1.5mL/kg drip

In STEMI Admissions → Flu Vaccine

In Hepatic Encephalopathy → High-Dose PEG → Lactulose

In cirrhosis-associated muscle cramps → Sip of Pickle Brine

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Thank you all for your time!

Feel free to contact with questions or comments!

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