group IV). Approval from the Institutional Review Board and informed consent were obtained for the collection of human pancreatic necrosis samples from patients who underwent necrosectomy procedures. Pancreatic necrosis tissue (weight A) was incubated with individual test solutions for 2 hours at 37°C, and then the remaining tissues were weighed (weight B). The liquefaction efficiency (%) was calculated by (1-B/A) * 100%. The liquefaction results (median and interquartile range) in groups I to IV (each n = 12) were 28.4% (5.1), 31.8% (26.2), 40.5% (22.8), and 56.7% (36.1), respectively. Artificial gastric juice was significantly more effective than H_2O_2 in liquefying pancreatic necrosis ($P < .01$). As a safety study, normal healthy aortic tissue from rats was also incubated (for 2 hours at 37°C) with each solution (each n = 6), and no histologic evidence of injury was identified for any of the solutions.

In this pilot study, artificial gastric juice exposure for at least 2 hours was more effective than H_2O_2 in accelerating liquefaction of pancreatic necrosis without damaging normal vascular tissue. This approach should be further investigated as an adjunct to percutaneous drainage and debridement procedures.

DISCLOSURE

All authors disclosed no financial relationships.

Lin Gao, PhD
Xiaojia Xiao, BSc
Department of Critical Care Medicine
Jinling Hospital
Medical School of Nanjing University
Nanjing, Jiangsu, China
Lu Ke, PhD
Department of Critical Care Medicine
Jinling Hospital
Medical School of Nanjing University
National Institute of Healthcare Data Science
Nanjing University
Nanjing, Jiangsu, China
Jiwon Hong, PhD
Applied Surgery and Metabolism Laboratory
School of Biological Sciences
University of Auckland
Auckland, New Zealand
Lisa Brown, PhD, FRACS
Department of Surgery
Royal Melbourne Hospital
Victoria, Australia
Anthony Phillips, MBChB, PhD
Applied Surgery and Metabolism Laboratory
School of Biological Sciences
University of Auckland
Auckland, New Zealand

John A. Windsor, MD, FRACS
Surgical and Translational Research Centre
Faculty of Medical and Health Sciences
School of Medicine
University of Auckland
Auckland, New Zealand

This work was supported by National Natural Science Foundation of China (No. 82070665).

REFERENCES

1. Mohan BP, Madhu D, Toy G, et al. Hydrogen peroxide-assisted endoscopic necrosectomy of pancreatic walled-off necrosis: a systematic review and meta-analysis. Gastrointest Endosc 2022;95:1060-6.e7.
2. Baron TH, DiMaio CJ, Wang AY, et al. American Gastroenterological Association Clinical Practice Update: management of pancreatic necrosis. Gastroenterology 2020;158:67-75.e1.
3. Rheinheimer J, Ziegelmann PK, Carlessi R, et al. Different digestion enzymes used for human pancreatic islet isolation: a mixed treatment comparison (MTC) meta-analysis. Islets 2014;6:e977118.
4. Beland MD, Gervais DA, Levis DA, et al. Complex abdominal and pelvic abscesses: efficacy of adjunctive tissue-type plasminogen activator for drainage. Radiology 2008;247:567-73.
5. Rana SS, Sharma R, Gupta R. Can endogenous gastric acid and bile facilitate chemical debridement of walled off necrosis? Pancreatology 2019;19:398-9.
6. Brown L, Hong J, Petrov MS, et al. The use of gastric juice to aid in liquefaction and drainage of pancreatic ecrosis. HPB 2016;18:327-8.

https://doi.org/10.1016/j.gie.2022.08.006

Response:

In this interesting correspondence, authors Gao et al[1] describe accelerated liquefaction of necrotic debris in pancreatic walled-off necrosis (WON) using gastric juice. In our meta-analysis published in *Gastrointestinal Endoscopy* we explored the pooled outcomes of H_2O_2 in the necrosectomy of pancreatic WON.[2] Excellent pooled outcomes were demonstrated in our study.

As Gao et al[1] noted in their letter, many chemical formulations have been investigated with interesting results. In their in vitro study, 4 different chemical solutions on human pancreatic necrosis were studied. Based on the percentage liquefaction efficiency results, artificial gastric juice was significantly more effective than H_2O_2. Interestingly, the authors exposed normal aortic tissue from rats to incubation with artificial gastric juice, and no histologic evidence of injury was noted.

We congratulate the team for their innovative study. It does make theoretic sense that gastric juice, with its acidic pH and enzymatic properties, can potentially liquify necrotic debris. This is a very exciting in vitro finding that might pave the way for some novel liquefactive agents in the chemical debridement of pancreatic WON.

DISCLOSURE

The author disclosed no financial relationships.

Babu P. Mohan, MD
Gastroenterology and Hepatology
University of Utah Health
School of Medicine
Salt Lake City, Utah, USA

REFERENCES

1. Gao L, Xiao X, Ke L. Gastric juice accelerates liquefaction of pancreatic necrosis. Gastrointest Endosc 2023;97:149-50.
2. Mohan BP, Madhu D, Toy G, et al. Hydrogen peroxide-assisted endoscopic necrosectomy of pancreatic walled-off necrosis: a systematic review and meta-analysis. Gastrointest Endosc 2022;95:1060-6.e7.

https://doi.org/10.1016/j.gie.2022.09.005

Limitations in endoscopic sleeve gastroplasty outcomes data derived from surgery-based repositories

To the Editor:

We read the article by Gudur et al.[1] We have concerns regarding critical, but understandably inherent, limitations that portend significant implications regarding their interpretation and subsequent perception among clinicans and patients alike.

Endoscopic sleeve gastroplasty (ESG) is a novel procedure 10 years in evolution. The MERIT study reported ESG-related serious adverse events occurring in 2% of patients,[2] congruent with retrospective series estimating them to be between 0.5% and 2.2%.[3-8] In both studies, these adverse events were managed conservatively without intensive care or surgery.[2-8] Expected accommodative GI symptoms occur, whereas bleeding, perforations, neighboring visceral injury, and abscess formation are rare, and none were reported in MERIT.[2]

Gudur et al[1] analyzed a surgical database reporting what was described as 6000 ESG cases. The lack of granularity did not allow important ancillary details, such as adequate center volume meeting competency thresholds. This is critical, given the reportedly 6 early mortalities, which has not, to the best of our knowledge, been reported in the literature or conference proceedings. However, the most important, historically identified in the Metabolic and Bariatric Surgery Accreditation and Quality Improvement Program (MBSAQIP), relates to Current Procedural Terminology coding inaccuracies.[9] As such, surgical procedures may have been erroneously indexed as ESG.

This is suggested by a very unusual serious adverse event profile ascribed to ESG, such as "GI leaks." Leaks can complicate bariatric surgeries but not ESG. Similarly, stricturing necessitating balloon dilation has not been described with ESG, to the best of our knowledge. Last, we are unable to explain reported pneumonia cases after a procedure that does not result in GI reflux disease.[10] Whereas burgeoning bariatric endoscopy research is critical to advancing the field, we are concerned that these data pose inaccuracies stemming from possible incorrect Current Procedural Terminology coding, which is critical to the perception of ESG as a novel, safe, and effective weight loss option in the fight against obesity.

DISCLOSURE

Dr Abu Dayyeh is a consultant for Endogenex, Endo-TAGS, Metamodix, BFKW, USGI, Spatz Medical, and Boston Scientific and the recipient of grants or research support from USGI, Spatz Medical, Boston Scientific, Apollo Endosurgery, Cairn Diagnostics, and Aspire Bariatrics. Dr Neto is a consultant for Apollo Endosurgery, GI Dyamics, Keyron, and USGI. Dr Boškoski is a consultant for Apollo Endosurgery, Cook Medical, Boston Scientific, and Nitinotes, the recipient of a research grant from Apollo Endosurgery, and a board member of Endo Tools. Dr Bove is a consultant for Apollo Endosurgery. The other author disclosed no financil relationships.

Fateh Bazerbachi
CentraCare
Interventional Endoscopy Program
St Cloud Hospital
St Cloud, Minnesota, USA
Barham K. Abu Dayyeh
Division of Gastroenterology and Hepatology
Mayo Clinic
Rochester, Minnesota, USA
Manoel Galvao Neto
Mohak Bariatric and Robotic Center
Sri Aurobindo Medical College
Indore, India
Ivo Boškoski
Vincenzo Bove, MD
Digestive Endoscopy Unit
Fondazione Policlinico Universitario Agostino Gemelli IRCCS
Center for Endoscopic Research Therapeutics and Training
Università Cattolica del Sacro Cuore
Roma, Italy

REFERENCES

1. Gudur AR, Geng C, Kshatri S, et al. Comparison of endoscopic sleeve gastroplasty versus surgical sleeve gastrectomy: a metabolic and bariatric surgery accreditation and quality improvement program database analysis. Gastrointest Endosc Epub 2022 Jul 20.
2. Abu Dayyeh BK, Bazerbachi F, Vargas EJ, et al. Endoscopic sleeve gastroplasty for treatment of class 1 and 2 obesity (MERIT): a prospective, multicentre, andomized trial. Lancet 2022;400:441-51.
3. Abu Dayyeh BK, Rajan E, Gostout CJ. Endoscopic sleeve gastroplasty: a potential endoscopic alternative to surgical sleeve gastrectomy for treatment of obesity. Gastrointest Endosc 2013;78:530-5.