

# Complications to Chronic Pancreatitis and Etiological Risk Factors: A Continental Divide?

Søren S. Olesen, MD, PhD<sup>1,2</sup> and  
Asbjørn M. Drewes, MD, PhD, DMSc<sup>1,2</sup>

*Am J Gastroenterol* 2019;114:1353. <https://doi.org/10.14309/ajg.000000000000302>

We thank Dr. Ru et al. for their interest in our recent publication (1). The article examined clustering of complications in patients with chronic pancreatitis and their association with etiological risk factors. An independent association was seen between alcoholic etiology and complication frequencies of a cluster characterized by inflammatory complications, whereas smoking was associated with complication frequencies in clusters characterized by fibrosis-related complications and pancreatic insufficiencies (exocrine pancreatic insufficiency and diabetes mellitus) (1).

Dr. Ru et al. attempted to replicate our findings in a large cohort (n = 1,082) of patients with chronic pancreatitis from China. However, prevalences of complication in the Chinese cohort were remarkably different from those in our study and most other multicenter studies from Europe and North America (2–5). Consequently, our Chinese colleagues were not able to replicate the complication clusters observed in our study (except for the association between exocrine pancreatic insufficiency and diabetes), which is not surprising, given the fundamentally different patient characteristics. The underlying mechanisms for the differences in complication profiles between studies are most likely explained by differing environmental and genetic risk factors (6,7). Accordingly, most of

the patients in our study had chronic pancreatitis associated with smoking and excessive alcohol consumption, whereas the Chinese cohort mostly comprised patients with idiopathic chronic pancreatitis, although detailed data on disease etiology were not reported.

In addition to replication, Dr. Ru et al. commented that pancreatic duct lesions should generally be taken as a diagnostic feature of chronic pancreatitis rather than a complication. We do not concur with this. Although we agree that calcifications and pancreatic duct pathology are key diagnostic features of chronic pancreatitis, pancreatic duct pathology is the morphological substrate for most invasive procedures used for treatment of chronic pancreatitis and, as such, must be considered a (potentially treatable) disease complication (8). We only included the presence of moderate to marked pancreatic duct lesions according to the Cambridge classification and intentionally did not include calcifications in the cluster analysis because “intraductal filling defects or calculi” are included in the criteria used to characterize “marked” pathology in the Cambridge classification (9). Hence, a high likelihood of collinearity between the presence of pancreatic calcifications and ductal pathology classification is to be expected, which would bias the cluster analysis.

In conclusion, Dr. Ru et al. have highlighted the remarkable complexity of chronic pancreatitis and shown that the clinical presentation of the disease may vary considerably across continents. For this, they should be congratulated.

## CONFLICTS OF INTEREST

**Guarantor of the article:** Søren S. Olesen, MD, PhD.

**Specific author contributions:** S.S.O. and A.M.D. drafted the manuscript.

**Financial support:** None.

**Potential competing interests:** None.

## REFERENCES

- Olesen SS, Nøjgaard C, Poulsen JL, et al. Chronic pancreatitis is characterized by distinct complication clusters that associate with etiological risk factors. *Am J Gastroenterol* 2019;114:656–64.
- Ahmed Ali U, Issa Y, van Goor H, et al. Dutch Chronic Pancreatitis Registry (CARE): Design and rationale of a nationwide prospective evaluation and follow-up. *Pancreatol* 2015; 15:46–52.
- Whitcomb DC, Yadav D, Adam S, et al. Multicenter approach to recurrent acute and

chronic pancreatitis in the United States: The North American Pancreatitis Study 2 (NAPS2). *Pancreatol* 2008;8:520–31.

- Frulloni L, Gabbriellini A, Pezzilli R, et al. Chronic pancreatitis: Report from a multicenter Italian survey (PanCroInfAISP) on 893 patients. *Dig Liver Dis* 2009;41:311–7.
- Olesen SS, Poulsen JL, Drewes AM, et al. The Scandinavian Baltic Pancreatic Club (SBPC) database: Design, rationale and characterisation of the study cohort. *Scand J Gastroenterol* 2017;52:909–15.
- Mayerle J, Sendler M, Hegyi E, et al. Genetics and pathophysiology of pancreatitis. *Gastroenterology* 2019;156:1951–68.e1.
- Whitcomb DC, Frulloni L, Garg P, et al. Chronic pancreatitis: An international draft consensus proposal for a new mechanistic definition. *Pancreatol* 2016; 16:218–24.
- Drewes AM, Kempeneers MA, Andersen DK, et al. Controversies on the endoscopic and surgical management of pain in patients with chronic pancreatitis—Pros and cons! *Gut* [Epub ahead of print May 25, 2019.]
- Sarner M, Cotton PB. Classification of pancreatitis. *Gut* 1984;25:756–9.

<sup>1</sup>Department of Gastroenterology and Hepatology, Centre for Pancreatic Diseases and Mech-Sense, Aalborg University Hospital, Aalborg, Denmark; <sup>2</sup>Clinical Institute, Aalborg University, Aalborg, Denmark.

**Correspondence:** Søren S. Olesen, MD, PhD. E-mail: soso@rn.dk.

# Fecal Microbiota Transplantation for Primary Sclerosing Cholangitis—A Beautiful but Incomplete Story

Rizwan Ahamed, MD, DM<sup>1</sup>,  
Cyril Abby Phillips, MD, DM<sup>1</sup> and  
Philip Augustine, MD, DM<sup>1</sup>

*Am J Gastroenterol* 2019;114:1353–1354. <https://doi.org/10.14309/ajg.000000000000294>

We read with interest the study by Allegretti et al. (1) and congratulate the authors for attempting to understand the