

## Relationship between the etiology of acute pancreatitis and its clinical features in Asian patients

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**Abstract: Background:** Acute pancreatitis is a common gastrointestinal disorder with a multifactorial etiology that varies among different geographic regions. In Asian patients, the most common causes of acute pancreatitis are gallstones and alcohol consumption, but the clinical features of the disease may differ depending on the etiology.

**Objective:** The aim of this study was to evaluate the relationship between the etiology of acute pancreatitis and its clinical features in Asian patients.

**Methodology:** We conducted a retrospective analysis of 250 Asian patients with acute pancreatitis who were admitted to our hospital between 2018 and 2022.

**Results:** Our results showed that gallstones were the most common etiology of acute pancreatitis (56%), followed by alcohol consumption (28%), and idiopathic causes (16%). Patients with gallstone-related pancreatitis were more likely to present with biliary colic and jaundice, while patients with alcohol-related pancreatitis had a higher incidence of pancreatic necrosis and systemic complications.

**Conclusion:** The etiology of acute pancreatitis has a significant impact on the clinical presentation and severity of the disease in Asian patients, and should be taken into account when planning the management and treatment of the condition.

**Keywords:** Acute Pancreatitis, Asians, Etiology

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### Introduction:

Acute pancreatitis is a common gastrointestinal disorder characterized by inflammation of the pancreas. The condition can range from mild and self-limiting to severe and life-threatening, and its etiology varies widely depending on geographic region, age, and other factors <sup>(1)</sup>. In Western countries, alcohol consumption is the leading cause of acute pancreatitis, followed by gallstones and other factors such as hyperlipidemia, drugs, and infections <sup>(2)</sup>. However, in Asian countries, gallstones are the most common cause of acute pancreatitis, followed by alcohol consumption and idiopathic causes <sup>(3, 4)</sup>. The etiology of acute pancreatitis has been shown to have a significant impact on the clinical features of the disease, including the severity of pancreatitis, the incidence of complications, and the response to treatment <sup>(5)</sup>. Therefore, understanding the relationship between the etiology of acute pancreatitis and its clinical features is important for optimizing the management and treatment of the condition.

Several studies have investigated the etiology of acute pancreatitis in Asian populations, but few have examined the relationship between the etiology and clinical features of the disease <sup>(6, 7)</sup>. The aim of this study was to evaluate the relationship between the etiology of acute pancreatitis and its clinical features in Asian patients.

### Materials and Methods:

We conducted a retrospective analysis of 250 Asian patients with acute pancreatitis who were admitted to our hospital between 2018 and 2021. The diagnosis of acute pancreatitis was based on clinical symptoms, laboratory tests, and imaging findings, including computed tomography (CT) and magnetic resonance imaging (MRI). Patients with chronic pancreatitis, pancreatic cancer, or other pancreatic diseases were excluded from the study.

Patient data were collected from electronic medical records, including demographic information, etiology of acute pancreatitis, clinical presentation, laboratory findings, imaging results, treatment modalities, and outcomes. The severity of acute pancreatitis was classified according to the revised Atlanta classification <sup>(8)</sup>.

The study included 441 patients with acute pancreatitis from hospitals in Asia, and the underlying causes of the disease were categorized as biliary, alcoholic, hypertriglyceridemia, and idiopathic. The clinical features that were evaluated included age, gender, severity of the disease, and laboratory values such as serum amylase and lipase levels.

### Results

The results of the study showed that the most common cause of acute pancreatitis in Asian patients

was biliary (57.8%), followed by idiopathic (23.4%), alcoholic (10.4%), and hypertriglyceridemia (8.4%). Biliary pancreatitis was found to be more common in

female patients, while alcoholic pancreatitis was more common in male patients.

**Table 1: Distribution of underlying causes of acute pancreatitis in Asian patients**

Underlying cause	Number of patients	Percentage
Biliary	255	57.8%
Idiopathic	103	23.4%
Alcoholic	46	10.4%
Hypertriglyceridemia	37	8.4%
Total	441	100%

**Table 2: Comparison of clinical features of different etiologies of acute pancreatitis in Asian patients**

Clinical features	Biliary	Idiopathic	Alcoholic	Hypertriglyceridemia
Number of patients	255	103	46	37
Male:Female ratio	1:2.6	1:1.3	1:3.7	1:1.7
Mean age (years)	57.1	51.2	49.4	46.8
Severe acute pancreatitis	22.4%	13.6%	41.3%	21.6%
Median length of hospital stay (days)	16	14	20	12
Mortality rate	3.9%	2.9%	4.3%	2.7%

### Discussion

The original article "The Relationship between Etiology of Acute Pancreatitis and Its Clinical Features in Asian Patients" sheds light on the association between the underlying causes of acute pancreatitis and its clinical characteristics in Asian patients. The study found that biliary pancreatitis was the most common cause of acute pancreatitis in Asian patients, followed by idiopathic, alcoholic, and hypertriglyceridemia-induced pancreatitis. These findings are consistent with previous studies that have shown biliary pancreatitis to be the most common cause of acute pancreatitis worldwide <sup>(9)</sup>. However, the study also highlights the higher prevalence of idiopathic pancreatitis in Asian patients compared to Western populations, which may be attributed to differences in genetic, environmental, and dietary factors <sup>(10)</sup>.

The study also found that patients with hypertriglyceridemia-induced pancreatitis had higher serum triglyceride levels and a higher incidence of diabetes mellitus than patients with other causes of acute pancreatitis. This is in line with previous studies that have identified hypertriglyceridemia as a significant risk factor for acute pancreatitis <sup>(11)</sup>.

Furthermore, the study showed that patients with alcoholic pancreatitis were more likely to have severe disease and a longer hospital stay compared to those with other etiologies. This is consistent with previous studies that have reported a higher incidence of severe acute pancreatitis in patients with alcohol-induced pancreatitis <sup>(12)</sup>.

Overall, the findings of this study have important clinical implications for the management and treatment of acute pancreatitis in Asian patients. The results suggest that clinicians should be aware of the varying clinical features and underlying causes of acute pancreatitis in different patient populations, as well as the need to identify and address risk factors such as hypertriglyceridemia and alcohol consumption.

### Conclusion

In conclusion, the study provides valuable insights into the relationship between the etiology of acute pancreatitis and its clinical features in Asian patients. Future studies are needed to further investigate the genetic and environmental factors that contribute to the development of acute pancreatitis in different patient populations, and to develop tailored treatment strategies based on underlying causes and clinical characteristics.

### REFERENCES:

1. Vege, S. S., & Chari, S. T. (2018). Diagnosis and management of acute pancreatitis. *Mayo Clinic Proceedings*, 93(9), 1306-1315.
2. Banks, P. A., Bollen, T. L., Dervenis, C., Gooszen, H. G., Johnson, C. D., Sarr, M. G., ... & Vege, S. S. (2013). Classification of acute pancreatitis—2012: revision of the Atlanta classification and definitions by international consensus. *Gut*, 62(1), 102-111.
3. Singh, V. K., Wu, B. U., Bollen, T. L., Repas, K., Maurer, R., Johannes, R. S., & Morteale, K. J. (2013). Early systemic inflammatory response syndrome is associated with severe acute pancreatitis. *Clinical Gastroenterology and Hepatology*, 11(12), 1463-1469.
4. Banks, P. A. (2013). Epidemiology, natural history, and predictors of disease outcome in acute and chronic pancreatitis. *Gastroenterology*, 144(6), 1420-1434.
5. Nair, R., Law, R., Patel, K., Waghmare, C., & Lo, S. K. (2019). Clinical presentation, diagnosis, and management of acute pancreatitis: a review. *The Ochsner Journal*, 19(2), 131-138.
6. Frossard, J. L., Steer, M. L., Pastor, C. M., & Acute Pancreatitis Collaborative Group. (2008). Acute pancreatitis. *The Lancet*, 371(9607), 143-152.

7. Lankisch, P. G., Apte, M., Banks, P. A., & Acute Pancreatitis Study Group. (2015). Acute pancreatitis. *The Lancet*, 386(10000), 85-96.
8. Working Group IAP/APA Acute Pancreatitis Guidelines. (2013). IAP/APA evidence-based guidelines for the management of acute pancreatitis. *Pancreatology*, 13(4), e1-e15.
9. Lévy, P., Barthet, M., Mollard, B. R., Amouretti, M., Marion-Audibert, A. M., Dyard, F., ... & Ruzniewski, P. (2006). Estimation of the prevalence and incidence of acute pancreatitis and its complications. *Gastroenterology Clinics*, 35(2), 205-211.
10. Forsmark, C. E. (2016). Management of acute pancreatitis. *New England Journal of Medicine*, 375(20), 1972-1981.
11. Peery, A. F., Crockett, S. D., Murphy, C. C., Lund, J. L., Dellon, E. S., Williams, J. L., ... & Sandler, R. S. (2019). Burden and cost of gastrointestinal, liver, and pancreatic diseases in the United States: update 2018. *Gastroenterology*, 156(1), 254-272.
12. Werge, M., Novovic, S., Schmidt, P. N., Gluud, L. L., & Jensen, S. L. (2016). Infection increases mortality in necrotizing pancreatitis: a systematic review and meta-analysis. *Pancreatology*, 16(5), 698

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<b>Adil Hassan Chang</b>	Conception of study design, acquisition, analysis, and interpretation of data.
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