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International Surgical Week
The World's Congress of Surgery
isw2024.org
Kuala Lumpur, Malaysia
25-29 August 2024

Trends and seasonality in hospitalisations for acute pancreatitis: a retrospective analysis

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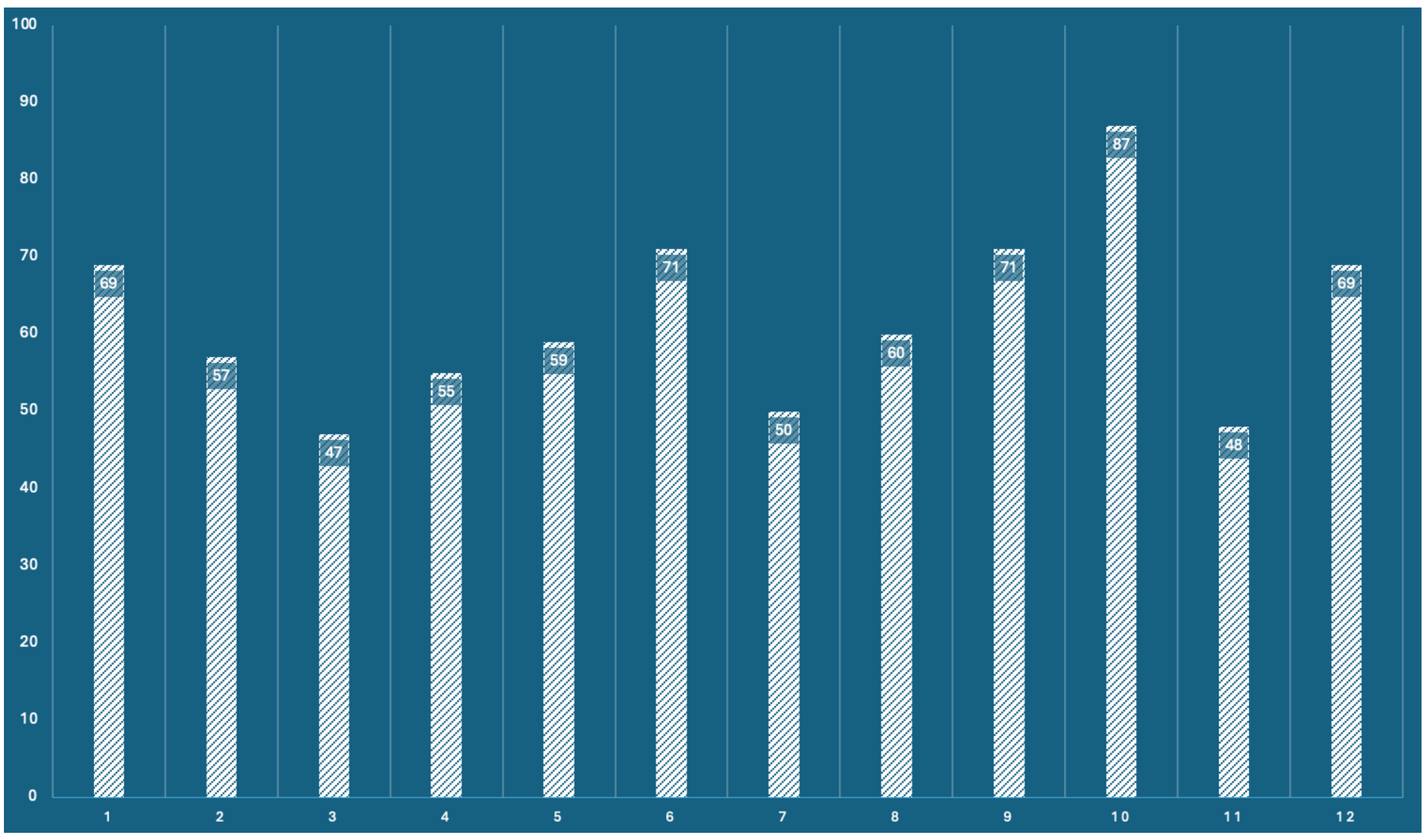
INTRODUCTION

Seasonal changes in the onset of several acute diseases have been reported. The current study aims to verify the possible existence of seasonal variability in acute pancreatitis. Approximately 20% of cases of acute pancreatitis (AP) are considered idiopathic. The purpose of this study was to identify the prevalence of different AP etiologies during the weather seasons and to investigate the relationship between the seasonal effect and the onset of acute pancreatitis.

METHODS

We conducted a retrospective cohort study of consecutive patients admitted with acute pancreatitis at our department between 01/2013 and 12/2023. We identified the diagnosis of acute pancreatitis by ICD10 code and/or lipase <3 times the normal upper limit. Biliary and alcohol-induced acute pancreatitis were distinguished by diagnostic and procedural ICD-10 codes. Seasonal trend decomposition was performed. We constructed multivariate logistic regression models.



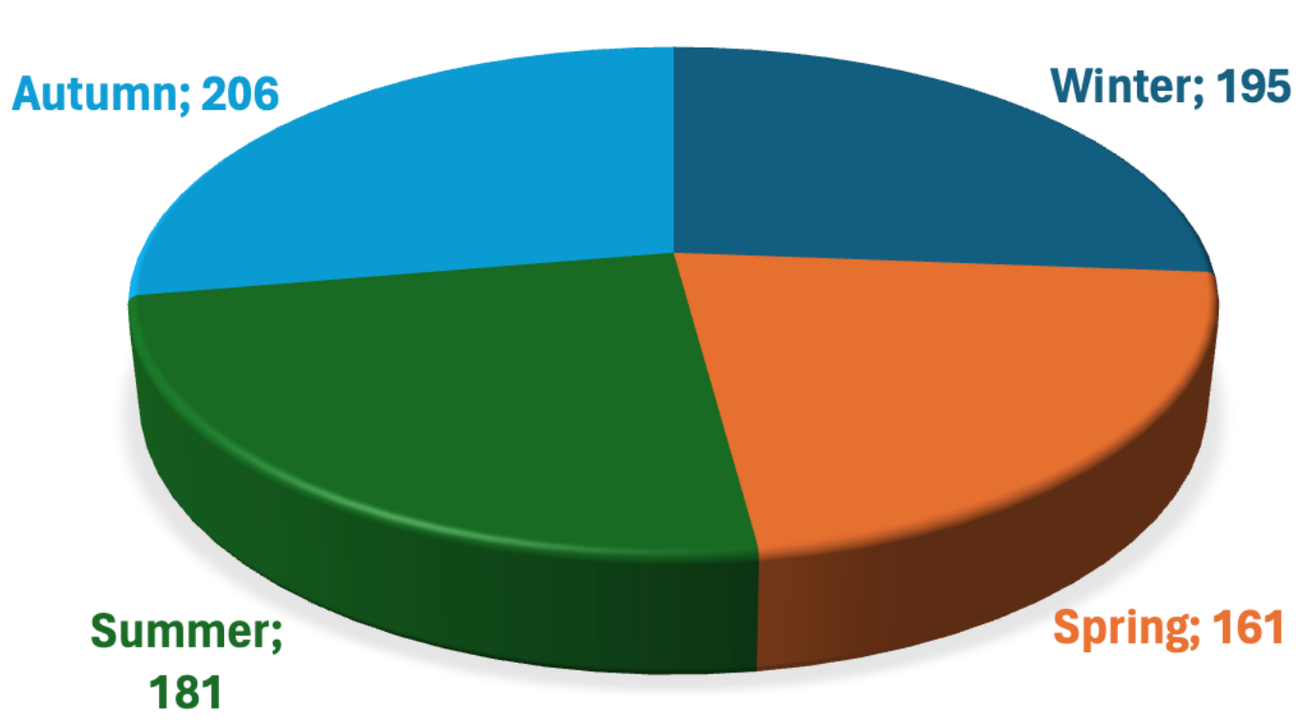
Graph 1 – The incidence of AP according to months of the year (2013-2023)

Table 1 – Etiological and epidemiological characteristics of hospitalisation

	Diagnosis (ICD-10)	Number of patients	Length of. Hospitalisation (days)	Age (years)
K85.00	Idiopathic acute pancreatitis without necrosis or infection	205	7	60
K85.01	Idiopathic acute pancreatitis with uninfected necrosis	10	10	62
K85.10	Biliary acute pancreatitis without necrosis or infection	253	9	64
K85.11	Biliary acute pancreatitis with uninfected necrosis	17	12	68
K85.20	Alcohol induced acute pancreatitis without necrosis or infection	62	7	47
K85.21	Alcohol induced acute pancreatitis with uninfected necrosis	10	12	51
K85.30	Drug induced acute pancreatitis without necrosis or infection	1	4	51
K85.31	Drug induced acute pancreatitis with uninfected necrosis	2	8	51
K85.80	Other acute pancreatitis without necrosis or infection	115	7	59
K85.81	Other acute pancreatitis with uninfected necrosis	10	11	67
K85.90	Acute pancreatitis without necrosis or infection, unspecified	50	8	64
K85.91	Acute pancreatitis with uninfected necrosis, unspecified	8	17	68

RESULTS

We analysed 1095 patients, after exclusion 755 patients. The mean yearly hospitalisation number was 68 patients (range 78 to 57). There was a linear increase in the annual incidence of acute biliary pancreatitis, while the incidence of acute alcoholic pancreatitis peaked in 2019.



AP incidence demonstrated annual incidence amplitude in fall and winter peak. In 2021, the highest incidence was observed among our population. The most consistent and rapid increase in AP incidence was observed in younger patients with biliary aetiology after the COVID-19 pandemics.

CONCLUSIONS

Seasonal effects can affect the etiology of acute pancreatitis. The incidence and annual trends of acute pancreatitis vary significantly between demographic groups and this knowledge may be useful for planning healthcare resources and identification of at-risk populations.

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