Chirurgia (Bucur). 2026;121(3):321-327
http://dx.doi.org/10.21614/chirurgia.3194

Risk Factors for Acute on Chronic Pancreatitis – A Multicentric Case-Control Study

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Abstract

Background/Objectives: Acute on chronic pancreatitis (ACP) is defined as acute worsening of the inflammatory process associated with chronic pancreatitis (CP) and typically results in deteriorating clinical condition and increased pancreatic pain. The heterogeneity of this disease hinders understanding the details behind important clinical data, such as sex differences, etiology, or outcome at discharge. We aim to find if congenital pancreatic abnormalities are a factor for ACP development.

Methods: In this multicentric case-control study, 181 cases of acute on chronic pancreatitis (ACP) were compared with 1754 controls with acute pancreatitis (AP) from four centers. The patients were consecutively hospitalized between January 1, 2015 and December 31, 2023. Frequencies, logistic regression, and the Pearson chi-square, Shapiro–Wilk, and Mann–Whitney U tests were deployed in the statistical analysis.

Results: The males had a 2.6 times higher likelihood of suffering from ACP ($p < 0.01$). If the patients had pancreatic abnormalities, they had a 51.2 times higher probability of developing ACP ($p < 0.01$). A 70% lower chance of dying during hospitalization if a patient suffered from ACP rather than AP was observed ($p < 0.01$).

Conclusion: Males with pancreatic abnormalities have a higher risk of developing ACP.

Keywords: acute on chronic pancreatitis, sex, pancreas, pancreatic abnormalities, pancreatitis, risk factors