

INPLASY202660118

doi: 10.37766/inplasy2026.6.0118

Received: 24 June 2026

Published: 25 June 2026

Corresponding author:

Daniel Vasile Balaban

vasile.balaban@umfcd.ro

Author Affiliation:

Carol Davila University of Medicine and Pharmacy Bucharest.

Balaban, DV; Manucu, G; Jinga, M.

ADMINISTRATIVE INFORMATION**Support** - Publish not Perish Institutional Programme.**Review Stage at time of this submission** - Data extraction.**Conflicts of interest** - None declared.**INPLASY registration number:** INPLASY202660118**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 25 June 2026 and was last updated on 25 June 2026.**INTRODUCTION**

Review question / Objective Does pancreatic steatosis (fatty pancreas), assessed by imaging or histological methods, influence survival outcomes in patients with pancreatic ductal adenocarcinoma?

Rationale Pancreatic ductal adenocarcinoma (PDAC) is one of the deadliest malignancies worldwide. Pancreatic steatosis (PS), also known as fatty pancreas, has emerged as a risk factor for pancreatic carcinogenesis. However, whether pancreatic steatosis influences overall survival, recurrence-free survival, or other prognostic outcomes after PDAC diagnosis remains unclear. This systematic review aims to synthesize the available evidence regarding the prognostic significance of pancreatic steatosis in PDAC.

Condition being studied Prognostic impact of pancreatic steatosis on PDAC outcomes.

METHODS

Search strategy Dedicated strings search is done in two databases.

Participant or population Adult patients (≥ 18 years) with histologically or radiologically confirmed pancreatic ductal adenocarcinoma, regardless of disease stage, treatment modality, or resectability status.

Intervention Pancreatic steatosis (fatty pancreas), assessed by:

- Computed tomography (CT)
- Magnetic resonance imaging (MRI)
- Endoscopic ultrasound (EUS)
- Histopathology
- Other validated methods of pancreatic fat quantification.

Comparator Patients without pancreatic steatosis or patients with lower pancreatic fat burden

compared with those with higher pancreatic fat burden.

Study designs to be included Original observational studies.

Eligibility criteria Inclusion criteria

- Original studies
- Adult PDAC population
- Assessment of pancreatic steatosis/fatty pancreas
- Survival or prognostic outcomes reported

Exclusion criteria

- Reviews
- Editorials
- Case reports
- Small case series
- Conference abstracts
- Studies evaluating only PDAC risk without survival outcomes
- Studies focusing exclusively on postoperative complications (e.g., pancreatic fistula)
- Studies evaluating non-pancreatic adipose tissue compartments (visceral fat, subcutaneous fat, sarcopenia) without pancreatic fat assessment.

Information sources Search in electronic databases (PubMed/MEDLINE, Scopus) and additional sources (reference list screening, citation tracking).

Main outcome(s) PDAC survival outcomes - overall survival, progression free survival, recurrence free survival.

Quality assessment / Risk of bias analysis Risk of bias will be assessed using the Quality In Prognosis Studies (QUIPS) tool evaluating:

- Study participation
 - Study attrition
 - Prognostic factor measurement
 - Outcome measurement
 - Study confounding
 - Statistical analysis and reporting
- Studies will be classified as low, moderate, or high risk of bias.

Strategy of data synthesis Synthesis will focus on survival analysis based on presence/absence of pancreatic steatosis, or stratified according to degree of fat infiltration.

Subgroup analysis Where data will permit, we will perform:

- Histology-based vs imaging-based studies
- CT-based vs MRI-based assessment
- Resected vs non-resected PDAC.

Sensitivity analysis Sensitivity analyses will be conducted according to study quality and risk-of-bias assessment.

Country(ies) involved Romania.

Keywords pancreatic cancer; pancreatic adenocarcinoma; survival; pancreatic steatosis; fatty pancreas.

Contributions of each author

Author 1 - Daniel Vasile Balaban.

Email: vbalaban@yahoo.com

Author 2 - George Manucu.

Author 3 - Mariana Jinga.