STROBE Statement—Checklist for "Clinicopathological Features of Patients Undergoing Surgery for Pancreatic Cancer with Very Early Postoperative Recurrence"

Item No	Recommendation	Manuscript Compliance
Title and Abstract		
1(a)	Indicate the study's design with a commonly used term in the title or the abstract	The title explicitly states "Retrospective Cohort Study," and the abstract identifies it as a "retrospective cohort study" (Manuscript: Title, Abstract).
1(b)	Provide in the abstract an informative and balanced summary of what was done and what was found	The abstract summarizes the study design, methods (retrospective cohort of 553 patients, comparison of VER vs. non-VER groups), and key findings (poorly differentiated tumors as a predictor, higher mortality, machine learning use) (Manuscript: Abstract).
Introduction		
2	Explain the scientific background and rationale for the investigation being reported	The introduction provides background on pancreatic ductal adenocarcinoma (PDAC), its high recurrence rate, and the emerging concept of very early recurrence (VER), justifying the need to identify clinicopathological predictors (Manuscript: Introduction, References 1–6).
3	State specific objectives, including any prespecified hypotheses	The aim is clearly stated: "This study investigates clinicopathological characteristics and predictive factors for VER in PDAC patients" (Manuscript: Abstract, Introduction). No specific hypotheses are explicitly stated, but the objective implies a focus on identifying predictors.
Methods		
4	Present key elements of study design early in the paper	The study design is described as a retrospective cohort study conducted at a high-volume tertiary care center from February 2019 to December 2024, with details on patient groups (Manuscript: Materials and Methods, Study Design and Setting).

5	Describe the setting, locations, and relevant dates, including periods of recruitment, exposure, follow-up, and data collection	The study is set at Ankara City Hospital's General Surgery Clinic, with data collected from February 2019 to December 2024. Follow-up includes postoperative imaging within 12 weeks (Manuscript: Materials and Methods, Study Design and Setting).
6(a)	Cohort study—Give the eligibility criteria, and the sources and methods of selection of participants. Describe methods of follow-up	Inclusion criteria: confirmed PDAC, accessible medical records. Exclusion criteria: non-PDAC conditions, incomplete data, no postoperative imaging, postoperative mortality within 12 weeks, inadequate resection. Follow-up involved imaging (ultrasonography, CT, MRI, PET/CT) within 12 weeks (Manuscript: Materials and Methods, Participants).
6(b)	Cohort study—For matched studies, give matching criteria and number of exposed and unexposed	Not applicable; the study is not matched (Manuscript: Materials and Methods).
7	Clearly define all outcomes, exposures, predictors, potential confounders, and effect modifiers. Give diagnostic criteria, if applicable	Primary outcome: VER (recurrence within 12 weeks, identified via imaging). Predictors include demographic, clinical, laboratory, radiological, pathological, and surgical variables (e.g., age, tumor grade, RDW). Diagnostic criteria for recurrence are specified (locoregional or distant metastases) (Manuscript: Materials and Methods, Variables).
8	For each variable of interest, give sources of data and details of methods of assessment (measurement). Describe comparability of assessment methods if there is more than one group	Data sources: electronic medical records, preoperative/postoperative imaging, pathology reports (AJCC 8th Edition). Radiological assessments by a radiologist, pathology reports standardized. Imaging compared pre- and post-surgery to identify recurrence (Manuscript: Materials and Methods, Data Sources and Measurements).
9	Describe any efforts to address potential sources of bias	Potential biases (retrospective design, imaging timing variability, non-standardized lab timing, surgeon variability) are acknowledged, with sensitivity analysis for imaging timing (P =

		0.12) to mitigate variability (Manuscript: Materials and Methods, Bias).
10	Explain how the study size was arrived at	Of 553 patients, 303 were included after applying inclusion/exclusion criteria. A flowchart (Figure 1) details the selection process (Manuscript: Materials and Methods, Participants; Figure 1).
11	Explain how quantitative variables were handled in the analyses. If applicable, describe which groupings were chosen and why	Quantitative variables (e.g., age, RDW, CA 19-9) were reported as means ± SD (normally distributed) or medians (ranges) (non-normally distributed), assessed via Kolmogorov–Smirnov test. Groupings (e.g., tumor grade G1–G3, tumor location) followed standard classifications (AJCC 8th Edition) (Manuscript: Materials and Methods, Statistical Analysis; Tables 1–2).
12(a)	Describe all statistical methods, including those used to control for confounding	Statistical methods include SPSS and Python (scikit-learn for random forest models). Tests: Student's t-test, Mann–Whitney U, Pearson's $\chi 2$, multivariate logistic regression, random forest modeling. Confounders (e.g., age, tumor location) were included in multivariate analysis if $P < 0.2$ in univariate analysis (Manuscript: Materials and Methods, Statistical Analysis).
12(b)	Describe any methods used to examine subgroups and interactions	Random forest models explored nonlinear patterns and interactions (e.g., G3 differentiation, RDW, tumor location). Ablation analysis assessed predictor contributions (Manuscript: Materials and Methods, Statistical Analysis; Supplementary Table 1, Table 5).
12(c)	Explain how missing data were addressed	Patients with incomplete data were excluded (Manuscript: Materials and Methods, Participants).
12(d)	Cohort study—If applicable, explain how loss to follow-up was addressed	Patients without postoperative imaging within 12 weeks or those with postoperative mortality within 12 weeks were excluded to address loss

		to follow-up (Manuscript: Materials and Methods, Participants).
12(e)	Describe any sensitivity analyses	Sensitivity analysis assessed the impact of imaging timing (4–8 vs. 8–12 weeks) on recurrence classification (P = 0.12) (Manuscript: Materials and Methods, Data Sources and Measurements; Results).
Results		
13(a)	Report numbers of individuals at each stage of study—e.g., numbers potentially eligible, examined for eligibility, confirmed eligible, included in the study, completing follow-up, and analysed	Of 553 patients, 303 were included after exclusions (24 for inadequate resection). Group 1 (VER, n = 28), Group 2 (no VER, n = 251). Flowchart (Figure 1) details the process (Manuscript: Results, Participant Characteristics; Figure 1).
13(b)	Give reasons for non-participation at each stage	Exclusions: non-PDAC conditions, incomplete data, no postoperative imaging, postoperative mortality, inadequate resection (Manuscript: Materials and Methods, Participants; Figure 1).
13(c)	Consider use of a flow diagram	A flowchart (Figure 1) outlines patient selection and group allocation (Manuscript: Figure 1).
14(a)	Give characteristics of study participants (e.g., demographic, clinical, social) and information on exposures and potential confounders	Participant characteristics (age, sex, smoking, tumor location, RDW, CA 19-9) are reported (Table 1). Clinical and pathological details (e.g., tumor grade, surgery type) are provided (Table 2) (Manuscript: Results, Participant Characteristics; Tables 1–2).
14(b)	Indicate number of participants with missing data for each variable of interest	Patients with incomplete data were excluded, ensuring no missing data for included participants (Manuscript: Materials and Methods, Participants).
14(c)	Cohort study—Summarise follow-up time (e.g., average and total amount)	Follow-up involved postoperative imaging within 12 weeks to detect VER. Specific follow-up duration is not summarized beyond this period (Manuscript: Materials and Methods, Data Sources and Measurements).

15	Cohort study—Report numbers of outcome events or summary measures over time	VER occurred in 28/303 patients (9.24%) within 12 weeks. Six-month mortality: 32.44% (Group 1) vs. 14.77% (Group 2) (Manuscript: Results, Participant Characteristics; Table 2).
16(a)	Give unadjusted estimates and, if applicable, confounder-adjusted estimates and their precision (e.g., 95% confidence interval). Make clear which confounders were adjusted for and why	Univariate and multivariate ORs with 95% CIs are reported (e.g., G3 tumors: OR 2.43, 95%CI 0.88–5.34). Confounders (e.g., age, tumor location, RDW) were included based on $P < 0.2$ in univariate analysis (Manuscript: Results, Predictive Factors; Tables 3–4).
16(b)	Report category boundaries when continuous variables were categorized	Continuous variables (e.g., RDW, CA 19-9) are reported as medians (ranges). Tumor grade (G1–G3) and tumor location (head vs. body/tail) are categorized per standard classifications (Manuscript: Results; Tables 1–3).
16(c)	If relevant, consider translating estimates of relative risk into absolute risk for a meaningful time period	Not explicitly reported, but six-month mortality rates (32.44% vs. 14.77%) provide absolute risk context for VER (Manuscript: Results, Surgical and Pathological Outcomes; Table 2).
17	Report other analyses done—e.g., analyses of subgroups and interactions, and sensitivity analyses	Random forest models analyzed nonlinear patterns (Supplementary Table 1). Ablation analysis evaluated predictor contributions (Table 5). Sensitivity analysis for imaging timing was conducted ($P = 0.12$) (Manuscript: Results, Predictive Factors; Supplementary Table 1, Table 5).
Discussion		
18	Summarise key results with reference to study objectives	Key results (G3 tumors as a strong VER predictor, association with mortality, head tumors, RDW) are summarized in relation to the aim of identifying clinicopathological predictors (Manuscript: Discussion).
19	Discuss limitations of the study, taking into account sources of potential bias or	Limitations include retrospective design, imaging variability, lack of molecular data, single-center design, and surgical variability.

	imprecision. Discuss both direction and magnitude of any potential bias	Potential biases are discussed, with sensitivity analysis mitigating imaging timing issues (Manuscript: Discussion, Limitations and Future Directions).
20	Give a cautious overall interpretation of results considering objectives, limitations, multiplicity of analyses, results from similar studies, and other relevant evidence	The discussion cautiously interprets G3 tumors, head tumors, and RDW as VER predictors, referencing prior studies (e.g., Belfiori et al., Strobel et al.) and acknowledging limitations (Manuscript: Discussion, State-of-the-Art Comparison).
21	Discuss the generalisability (external validity) of the study results	Generalizability is limited due to the single-center design and low body/tail tumor representation (10%). Multi-institutional validation is recommended (Manuscript: Discussion, Limitations and Future Directions).
Other Information		
22	Give the source of funding and the role of the funders for the present study and, if applicable, for the original study on which the present article is based	No external funding was received (Manuscript: Funding).

Notes:

- The manuscript adheres well to STROBE guidelines, with clear reporting of study design, methods, results, and limitations.
- Minor gaps include the lack of explicit follow-up time summary (Item 14c) and translation of relative risk to absolute risk (Item 16c), though mortality rates provide some context.
- The study's use of a flowchart (Figure 1) and detailed tables (Tables 1–6, Supplementary Table 1) enhances transparency.
- Ethical considerations, data sharing, and open-access policies are clearly stated, aligning with STROBE's emphasis on transparency.