THE ROLE OF DAY 1 SERUM AMYLASE IN PREDICTING CLINICALLY RELEVANT POST OPERATIVE PANCREATIC FISTULA

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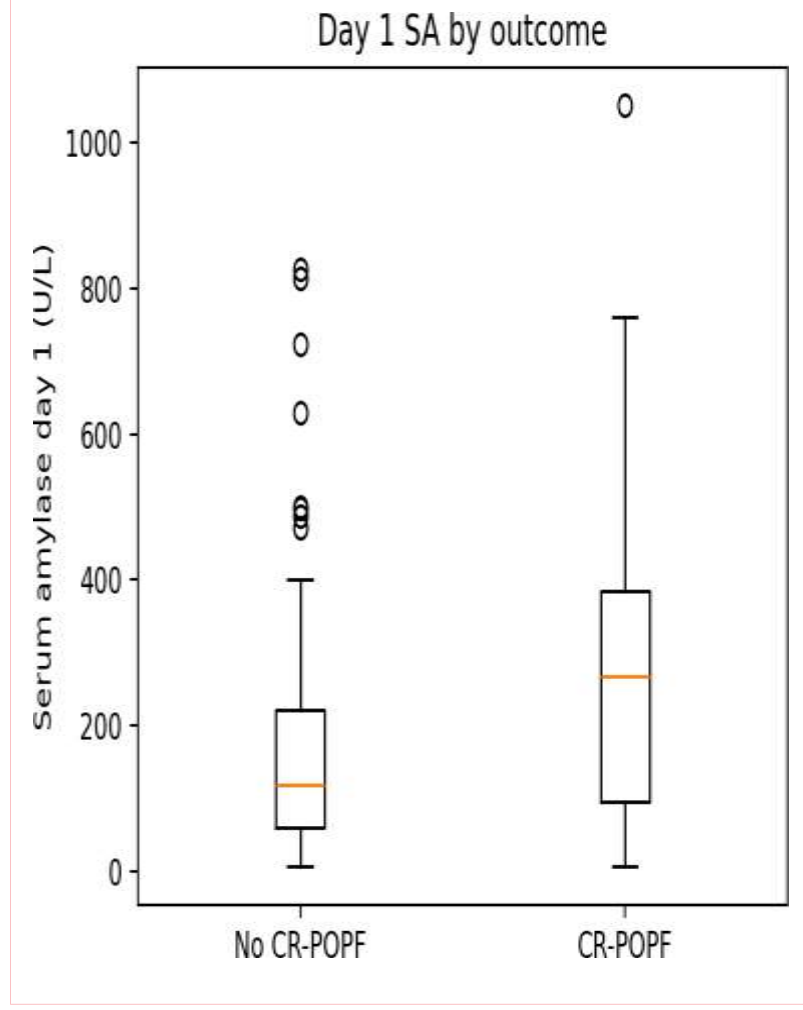
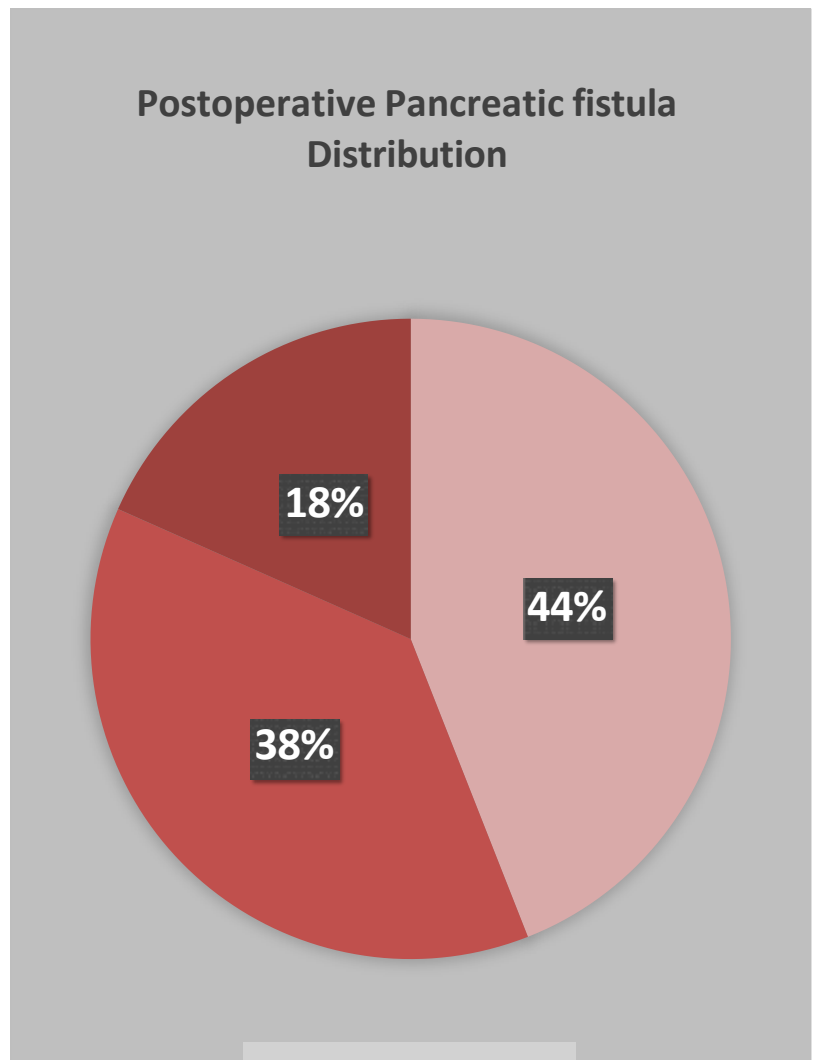
INTRODUCTION

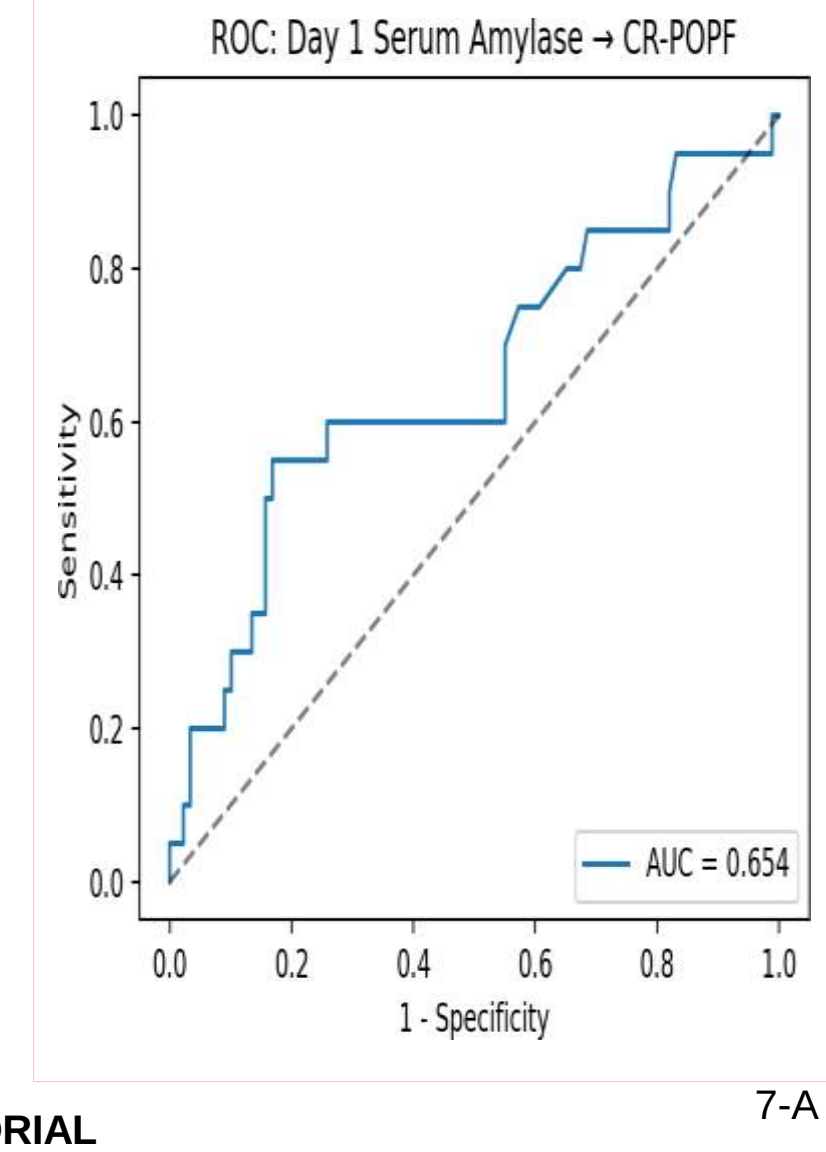
- Clinically relevant postoperative pancreatic fistula (CR-POPF) remains a major source of morbidity after pancreaticoduodenectomy.
- Early biomarkers for risk stratification are essential to guide postoperative management.
- This study evaluated the predictive value of postoperative day-1 (POD1) serum amylase for CR-POPF.

METHODS

- A retrospective review of 109 patients undergoing pancreaticoduodenectomy
- CR-POPF was defined according to ISGPS criteria (Grade B or C). POD1 serum amylase values were analyzed
- Statistical analysis included Mann–Whitney U test, ROC curve analysis, and logistic regression







RESULTS

- Total of 109 patients were evaluated; CR-POPF occurred in 20 (18.3%).
- Median POD1 serum amylase was significantly higher in patients with CR-POPF (267 U/L [IQR 96–385]) compared to those without (118 U/L [IQR 60–222], $p = 0.032$).
- ROC analysis demonstrated modest discrimination (AUC 0.654). The optimal cut-off by Youden's index was 266 U/L (sensitivity 55%, specificity 83% ,PPV 42%, NPV 89%).
- Univariable logistic regression showed serum amylase (log-transformed) was associated with CR-POPF (OR 1.4, $p = 0.042$)

CLINICAL INTERPRETATION

- Serum amylase ≥266 U/L on POD 1 suggests increased risk of CR-POPF
- This can be used to:Stratify patients into risk categories.
- Guide drain management and monitoring.
- Trigger early interventions (e.g imaging and antibiotics).

CONCLUSION

- POD1 serum amylase is significantly associated with CR-POPF and demonstrates moderate predictive ability.
- A threshold around 250–300 U/L offers reasonable specificity for risk stratification, while values <150 U/L may help rule out CR-POPF.
- Incorporating POD1 serum amylase into multimodal risk models may enhance early postoperative decision-making

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