

Can we predict early TPN requirement following Pancreaticoduodenectomy ?

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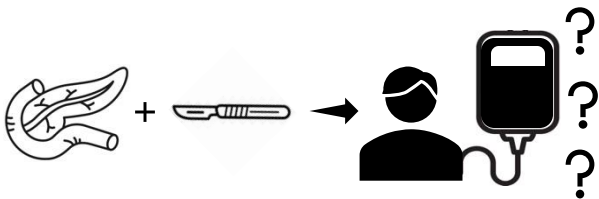


Background

Establishing oral nutrition serves as a key milestone in the post operative recovery of patients following Pancreaticoduodenectomy (PD).

Failure to achieve or maintain nutritional intake is common. The etiology of which is often multifactorial.

Can we identify early a high-risk patient cohort that will need TPN post operatively?



Results

Whipple procedures
(n=144)

No post op TPN
99 (69%)

Post op TPN
45 (31%)

Patients on TPN
have distinct
characteristics

	No TPN use (n=99)	TPN use (n=45)	P value
PD size (mm)	4.4	2.8	<0.01
PD stent Yes No	42 57	28 17	0.04
Gland texture Soft Firm	32 50	29 9	<0.01
Pathology High risk Low risk	20 25	19 80	0.03



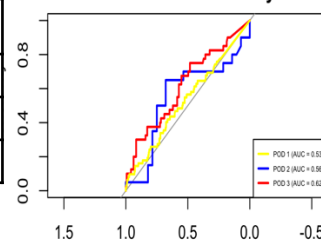
No difference in NG volume
D3 NG (mean) 298 vs 499ml (p 0.45)



Significant difference in
drain amylase levels which has
predictive capability

Drain Amylase	No TPN	TPN	P value
D1	1538	9338	<0.01
D2	331	1469	<0.01
D3	693	4142	<0.01

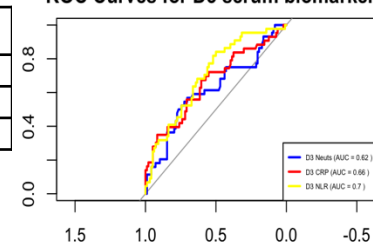
ROC Curves for drain amylase



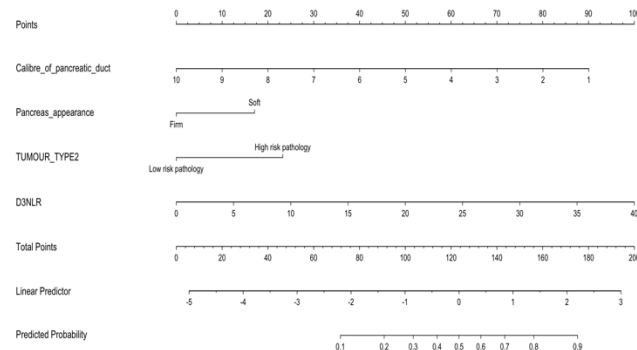
Patients who needed TPN had an inflammatory phenotype on PoD3

ROC Curves for D3 serum biomarkers

PoD3	No TPN	TPN	P value
Neuts	8	11	0.02
CRP	149	219	<0.01
NLR	8	12	<0.001



Predictive nomogram to identify patients who needed TPN on PoD3



Methods



Retrospective review of departmental database of all patients that underwent pancreaticoduodenectomy 2021 and 2025



Primary outcome measure → frequency of TPN use post operatively



Secondary outcome measure → identify high risk patients requiring TPN based on pre, intra and post operative characteristics by PoD3

Conclusions

A third of patients required TPN following pancreaticoduodenectomy This high risk patient cohort can be identified on post operative day 3. Early identification of this cohort allows for optimal care planning and prompt referral for nutritional support.