Clinical Predictive Factors for Long and Short Term Survival in Resectable Pancreatic Cancer

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Background

- Pancreatic ductal adenocarcinoma (PDAC) is an aggressive malignancy which carries a poor prognosis, even when diagnosed at an early stage.
- We aim to describe the clinical and pathologic features of short and long term survivors of pancreatic cancer in the Irish National Centre for Pancreatic Cancer.

Methods

- This was a retrospective study of patients who underwent resection of PDAC between 2011 and 2019.
- Identified patients who underwent resection of PDAC
- Ampullary carcinomas, colloid carcinomas, acinar carcinomas excluded.
- Long term survival (LTS) was defined as >3 years.
- Short term survival (STS) was defined as < 1 year.
- The cohorts were further subdivided into very long term survivors (>5 years) and very short term survivors (>5 years)
- Those dying from postoperative complications were excluded.

Results

- 276 patients who underwent resection of PDAC were included in the study.
- Of these, 88 (32%) survived >3 years, and 54 (19%) survived < 1 year.

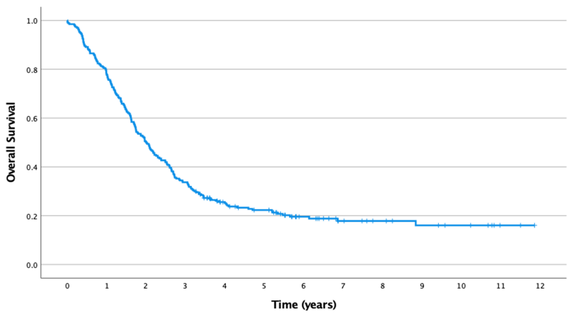

Figure 1. Kaplan Meier Survival Curve of patients undergoing resection of PDAC.

Results

	v. STS (N=24)	STS (N=30)	LTS (N=44)	v. LTS (N=44)
Age, median (range)	68 (42-78)	67 (44-83)	68 (39-80)	65 (38-74)
Sex, male	16 (67%)	14 (47%)	18 (47%)	27 (61%)
Smoker, ever	7 (29%)	6 (20%)	8 (18%)	14 (32%)
Tumour Location, head	20 (83%)	23 (77%)	29 (66%)	32 (73%)
Borderline Resectable	10 (42%)	1 (3%)	8 (18%)	8 (18%)
R0 Resection	12 (50%)	18 (60%)	33 (75%)	32 (72%)
Post-operative length of stay, days, mean	19	16	15	16

Table 1. Demographic and tumour details of long and short term survivors of resected PDAC.

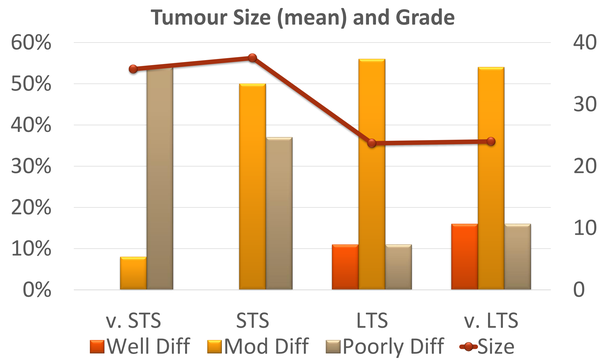

Figure 2. Tumour size and grade were associated with short term survival, p=0.007 and p<0.001 respectively.

- There was no significant difference in T staging between the 4 cohorts.

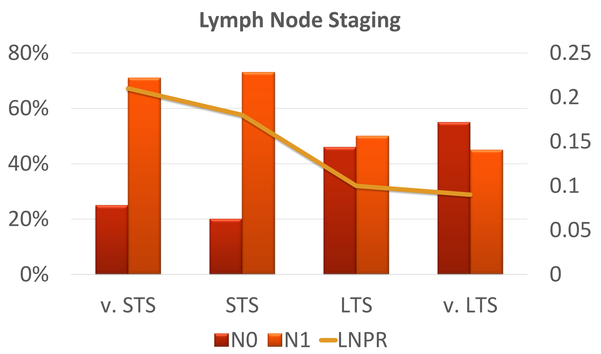

Figure 3. Lymph node staging of resected PDAC and Lymph Node Positivity Ratio (LNPR). Lower LNPR predicted longer survival (p=0.013)

Results

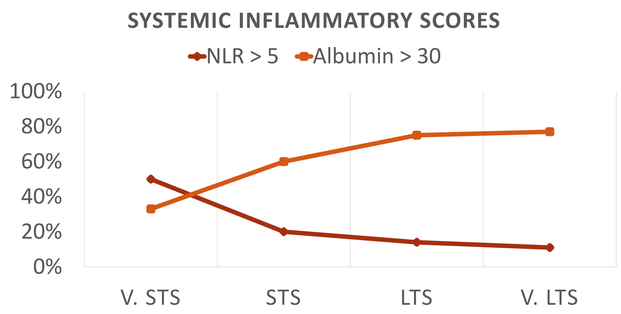

Figure 4. Percentage of patients with Neutrophil to lymphocyte ratio (NLR) of >5 and albumin >30. NLR >5 and albumin < 30 preoperatively predicted shorter survival with p values of <0.001 and <0.001 respectively.

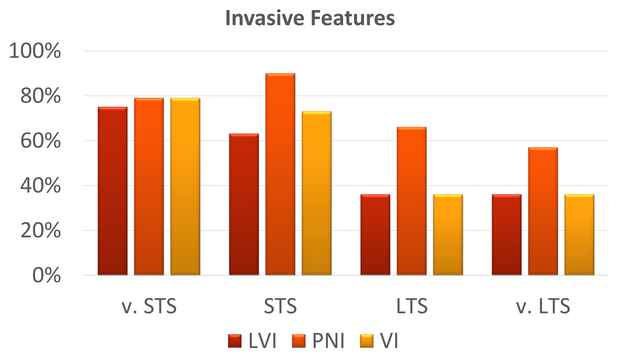

Figure 5. The presence of lymphatic invasion (p=0.002), perineural invasion (p=0.001) and venous invasion (p<0.001) were all associated with short term survival.

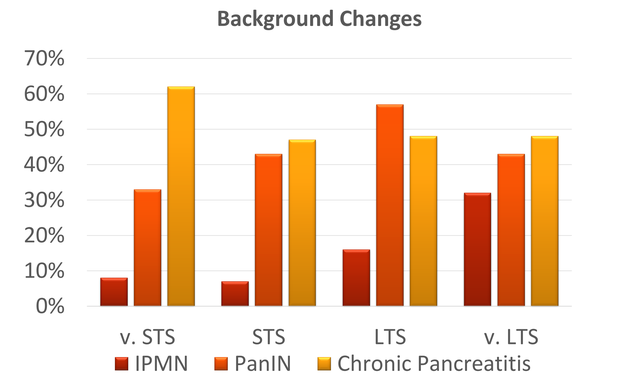

Figure 6. Pathological background changes reported in resected PDAC.

Treatment

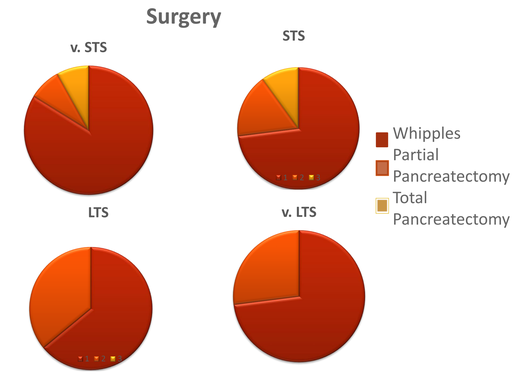

Figure 7. Type of surgery performed for resected PDAC

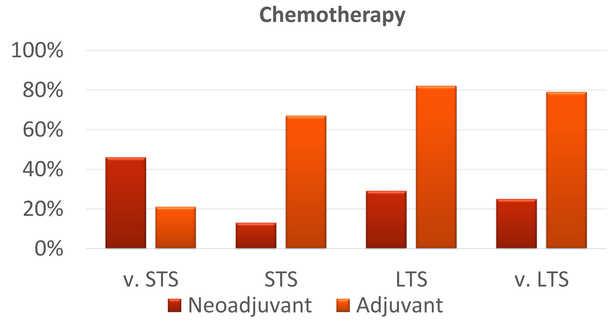

Figure 8. Chemotherapy rates in short and long term survivors following resected PDAC. Adjuvant chemotherapy predicted long term survival (p<0.001)

Recurrence

- 79% of very STS had evidence of disease recurrence compared with 25% of very LTS.
- In those that recurred, very long term survivors had a higher proportion of lung only metastases (40%) versus very short term survivors (10%).
- 68% of very long term survivors were still alive and disease free at time of data collection.

Conclusion

- Clinicopathologic features associate with short term and long term survival in pancreatic cancer.
- Systemic inflammatory scores predict poor outcomes and should be considered pre-operatively.