Treatment and outcomes of unresectable and metastatic pancreatic cancer treated in public and Australian hospitals

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Introduction

- Previous retrospective studies have observed superior survival outcomes for cancer patients treated in private hospitals compared to public.
- These studies have included patients with colorectal, breast and lung cancer
- This survival disparity has not been evaluated in patients with pancreatic cancer.

Aims

- To compare overall survival (OS) in patients treated in private versus public health systems.

Methodology

- A multi-site pancreatic cancer database (PURPLE) was analysed.
- Patients with locally advanced unresectable (LaP) or metastatic (MetP) pancreatic ductal adenocarcinoma (PDAC) diagnosed from Jan 2016 to June 2020 were reviewed.
- Log-rank testing and and Kaplan Meier estimates were used to compare OS
- Multivariate Cox proportional hazard model and logistic regression was used to examine independent predictors of mortality and receiving first-chemotherapy, respectively

Results

- Of 822 patients included, 185 (22.5%) were treated in the private sector. Characteristics are shown in table 1.
- Private patients were older, had better ECOG and more likely to reside in the most socioeconomically advantaged postcodes (ISRAD 5).
- Private patients were more likely to receive first-line chemotherapy, more lines of therapy and chemotherapy within 30 days of death (Table 2).
- Median OS was improved in private patients (Fig 1). There was no difference in median OS between private and public patients who received first-line chemotherapy (9.9 vs. 9.1 months, HR 1.1, 95% 0.88 to 1.39).

Results (cont'd)

Table 1: Baseline demographic and clinical characteristics

	Private n (%)	Public n (%)	p-value
n	185	637	
Age (mean)	71.5	68.9	<0.01
Male	94 (51)	322 (51)	0.76
ECOG 0 to 1	152 (82)	468 (74)	0.05
CCI 0 to 1	22 (12)	86 (14)	0.25
IRSAD 5	124 (67)	125 (20)	<0.01
Locally advanced unresectable (LaP)	62 (34)	235 (37)	0.45
Best supportive care only	47 (25)	259 (40)	<0.01
Received first-line chemotherapy	129 (70)	345 (54)	<0.01

Abbreviation: CCI – Charlson Comorbidity Index, IRSAD – Index of Relative Socio-economic Advantage and Disadvantage

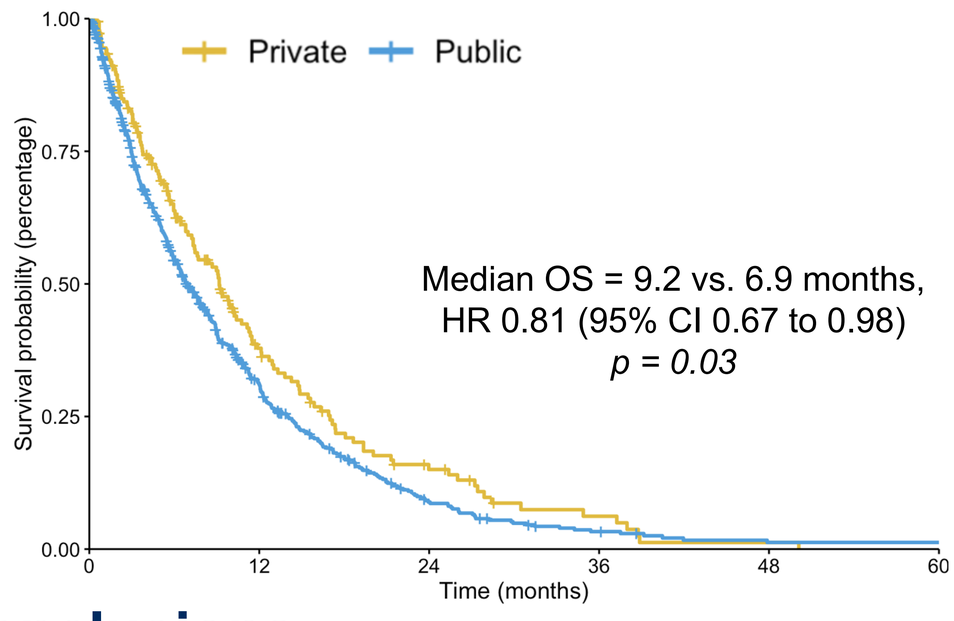
Table 2: Treatment in characteristics in patients receiving first-line chemotherapy

	Private (n = 129) n (%)	Public (n = 345) n (%)	Chi-square p-value
• 1L Single agent chemotherapy	10 (8)	52 (15)	0.06
• 1L Doublet chemotherapy	108 (84)	235 (68)	<0.05
• 1L Triplet chemo chemotherapy	8 (6)	47 (14)	0.03
Received 3+ lines	29 (23)	30 (9)	<0.01
Chemotherapy <30 days prior to death	17 (13)	23 (7)	0.04

Table 3: Multivariable analyses identifying predictors of 1) receiving first-line chemotherapy and 2) mortality

Predictor	Receipt of chemotherapy (OR; 95% CI)	Mortality (HR; 95% CI)
Age ≤ 70 years	**2.7 (1.9 to 3.9)**	0.9 (0.7 to 1.0)
Private sector	**1.9 (1.2 to 3.0)**	1.0 (0.8 to 1.3)
ECOG 0 to 1	**3.2 (2.2 to 4.7)**	**0.5 (0.4 to 0.7)**
CCI 0 to 1	1.3 (0.7 to 2.2)	0.9 (0.7 to 1.2)
IRSAD 5	1.4 (1.0 to 2.1)	0.8 (0.7 to 1.0)
LaP	0.7 (0.5 to 1.0)	**0.5 (0.4 to 0.6)**
1L chemotherapy	NA	**0.5 (0.4 to 0.6)**

Figure 1: Overall survival, stratified by sector of care.



Conclusions

- Patients who received chemotherapy had improved survival compared to those who did not.
- Private patients were more likely to receive chemotherapy, translating to improved survival.
- Of those that received chemotherapy, private patients were treated more intensively without a survival advantage.
- Further efforts are needed to explore the potential patient, clinician and institutional factors that drives this difference in chemotherapy uptake.