AB029. S029. Neoadjuvant therapy offers longer survival than upfront surgery for poorly differentiated and higher stage pancreatic cancer

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Background: Neoadjuvant therapy for pancreatic cancer remains controversial. Our aim was to assess differences in survival, disease recurrence and histopathological tumour characteristics between patients treated with neoadjuvant therapy followed by subsequent surgery and patients undergoing upfront surgery.

Methods: Out of 399 consecutive pancreatic ductal adenocarcinoma (PDAC) patients operated at Helsinki University Hospital in 2000 to 2015, 75 borderline resectable patients were treated with neoadjuvant therapy. Resectable propensity scored patients (n=150) underwent upfront surgery. Neoadjuvant therapy consisted of FOLFIRINOX, single gemcitabine or combined with cisplatin, nab-paclitaxel or capecitabine with or without radiation. Survival was calculated with Kaplan-Meier and compared with the Breslow test. Survival was determined from the start of treatment, being the first day of treatment for patients treated with neoadjuvant therapy and the date of surgery for others.

Results: Between 2000 and 2015 median disease-specific survival (DSS) [34 (95% CI, 29–39) *vs.* 26 (95% CI, 20–32) months, P=0.016] and disease-free survival (DFS) [22 (95% CI, 17–27) *vs.* 13 (95% CI, 9–17) months, P=0.001] were longer in patients treated with neoadjuvant therapy than in those undergoing upfront surgery. Survival differences were not significant in the 2000s but were, in turn, among patients treated in the 2010s with better survival for patients treated with neoadjuvant therapy [DSS 35 (95% CI, 25–44) *vs.* 26 (95% CI, 20–31) months, P=0.008 and DFS 25 (95% CI, 13–36) *vs.* 13 (95% CI, 6–21) months, P=0.001]. Especially patients with poorly differentiated G3 tumours had longer survival [DSS 30 (95% CI, 17–42) *vs.* 11 (95% CI, 8–15) months, P=0.004 and DFS 21 (95% CI, 11–31) *vs.* 7 (95% CI, 5–8) months, P=0.001] and higher stage IIB-III [DSS 34 (95% CI, 29–40) *vs.* 20 (95% CI, 14–26) months, P=0.006 and DFS 21 (95% CI, 12–29) *vs.* 10 (95% CI, 7–13) months, P=0.001].

Conclusions: Neoadjuvant therapy offers PDAC patients longer DSS and DFS than upfront surgery. Neoadjuvant therapy benefits especially borderline resectable patients with higher stage and poorly differentiated tumours.

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