Perioperative Complication Rates Following Neoadjuvant Chemoradiation in Pancreatic Adenocarcinoma


**PURPOSE / OBJECTIVE(s)**

- It is unclear if neoadjuvant chemotherapy or chemoradiotherapy increases rates of major perioperative complications.
- We hypothesized that early complication rates would be comparable among patients receiving neoadjuvant chemoradiation (neo-CRT), neoadjuvant chemotherapy alone (neo-CHT), or upfront surgery.

**RESULTS**

- There were 316 patients included in the study (neo-CRT (n=33), neo-CRT (n=48), upfront surgery (n=235).
- There were no statistically significant differences in overall perioperative complication rates between groups. There were significant differences between groups, individually, in regards to MI, acute renal failure/insufficiency, C. difficile infection, and sepsis.
- There was a statistically significant decrease in early post-operative pancreatic fistula formation in patients who underwent neo-CRT (p=0.024).
- There were no significant differences in perioperative deaths between groups: 2 perioperative deaths in the neo-CRT group (6.1%), 1 in the neo-CHT group (2.1%), and 10 in the upfront resection group (6.4%); p=0.67.

**MATERIAL & METHODS**

This is a retrospective study of 315 pts with PDAC who underwent resection within a multidisciplinary pancreatic-biliary program at an academic tertiary referral center between 2011-2018.

Major complications were defined as:
- Major wound disruption
- Pneumonia
- Pulmonary embolism
- Ventilator required > 48 hours
- Acute renal failure/Progressive renal insufficiency
- Stroke
- Myocardial infarction
- Deep vein thrombosis,
- Clostridium difficile
- Sepsis/septic shock
- Death

Data were abstracted from the medical record, an institutional cancer registry and NSQIP databases. Outcomes were assessed using χ2, ANOVA, and two-tailed Student’s t-tests.

**SUMMARY / CONCLUSION**

- Neoadjuvant chemotherapy or radiation in potentially resectable pancreatic cancer patients does not appear to increase overall 30-day perioperative complication rates.
- Query whether small numbers of events resulted in significant differences in rates of MI, acute renal failure/insufficiency, and C. difficile infection.
- As there was a significant decrease in early pancreatic fistula and sepsis rates in patients who received neo-CRT compared to those who didn’t, neo-CRT may be protective against these complications.
- 60 and 90 day post-operative outcomes are actively being evaluated.

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