Chemoradiation Improves Survival in Unresected Pancreatic Cancer

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> Pancreatic ductal adenocarcinoma (PDAC) remains a leading cause of cancer-related mortality. While neoadjuvant therapy (NAT) is increasingly used to improve outcomes, the optimal strategy, particularly for borderline resectable (BR) disease, remains uncertain. A recent single-centre retrospective analysis suggests that chemoradiation (CRT) in addition to systemic anti-cancer therapies (SACT) may improve overall survival in unresected BR and locally advanced (LA) PDAC patients.1

KEY TAKEAWAYS

- The Pivot: Chemoradiation (CRT) in addition to systemic anti-cancer therapies (SACT) was associated with improved overall survival in unresected borderline resectable (BR) and locally advanced (LA) pancreatic ductal adenocarcinoma (PDAC).
- The Data: Among unresected BR and LA patients, those treated with CRT in addition to SACT had a median overall survival of 18 months and 21 months respectively.1
- The Action: Clinicians should consider the role of chemoradiation as part of a total neoadjuvant approach for patients with unresected BR and LA PDAC, particularly when surgical resection is not achieved.

Radiological distinctions between borderline resectable (BR) and locally advanced (LA) pancreatic ductal adenocarcinoma (PDAC) are increasingly recognized as imperfect without dynamic assessment. Neoadjuvant therapy (NAT) aims to improve outcomes through tumour downstaging and early treatment of occult metastatic disease. However, published data evaluating combined systemic anti-cancer therapies (SACT) with or without chemoradiation (CRT) are limited and heterogeneous.1,2,3

Pancreatic cancer remains one of the most aggressive malignancies, with a dismal prognosis. Despite advances in treatment, the overall 5-year survival rate for PDAC is approximately 11%. A significant challenge in managing PDAC is its often late presentation, with many patients diagnosed at an advanced stage where surgical resection, the only potentially curative treatment, is not feasible. The classification of PDAC into resectable, borderline resectable, and locally advanced stages guides treatment decisions. However, the precise definitions and the optimal management strategies, particularly for BR and LA disease, continue to evolve. Neoadjuvant approaches, which involve administering therapy before surgery, are increasingly explored to improve resectability rates and eradicate micrometastatic disease, thereby potentially improving long-term survival.

Study Design & Findings

A single-centre retrospective analysis evaluated 44 patients with BR PDAC and 121 patients with LA PDAC treated with a total neoadjuvant approach of SACT with or without CRT and surgical resection between June 2017 and September 2022.1

The study specifically focused on patients receiving a "total neoadjuvant approach," meaning all systemic and/or radiation therapies were administered prior to any surgical intervention. This approach contrasts with strategies where surgery is performed upfront, followed by adjuvant therapy. The patient cohort included individuals diagnosed with either BR or LA PDAC based on initial radiological assessment. The SACT regimens employed were consistent with current clinical guidelines for PDAC, often involving multi-agent chemotherapy. Chemoradiation, when administered, typically involved a combination of external beam radiation therapy with concurrent sensitizing chemotherapy. The primary endpoints included overall survival (OS), rates of surgical resection, and the impact of resection margin status on survival. The retrospective nature of the study allowed for the analysis of real-world treatment patterns and outcomes within a tertiary cancer center setting.

The median overall survival (OS) did not differ significantly between BR and LA disease, at 18 months versus 16 months respectively (P = .14). Following NAT, 47.7% of BR patients and 18.1% of LA patients were anatomically suitable for surgical resection.1

Among unresected BR and LA patients, those treated with CRT in addition to SACT had a median OS of 18 months and 21 months respectively. In the resected subgroup, resection margin status was the primary factor associated with survival. An R0 resection (margin-negative) conferred a substantial OS advantage over R1 (margin-positive), with 47 months versus 22 months ($p < 0.001$), irrespective of the initial BR/LA classification at diagnosis.1

The study concluded that despite anatomical differences at diagnosis, BR and LA PDAC demonstrated comparable survival outcomes when treated with total neoadjuvant strategies in this cohort. These findings challenge traditional radiological staging-based treatment paradigms and confirm that a margin-negative surgical resection offered the greatest opportunity for long-term survival for BR/LA PDAC patients.1

Limitations

This was a single-centre retrospective analysis, which inherently limits the generalizability of its findings. The sample size for BR PDAC patients was relatively small (N=44). The study also noted that published data evaluating combined SACT with or without CRT are limited and heterogeneous, suggesting a need for more robust, prospective studies to confirm these observations.1,2,3

Further limitations include the potential for selection bias inherent in retrospective studies, as patient treatment decisions were not randomized. The specific SACT regimens and CRT protocols may have varied among patients, introducing heterogeneity that could influence outcomes. The duration of follow-up, while sufficient to assess median OS, might not capture long-term survival trends comprehensively. Additionally, the study did not detail the specific criteria used for determining anatomical suitability for resection post-NAT, which could vary between institutions and surgeons. Future research should aim to conduct multi-center prospective trials with standardized treatment protocols and larger patient cohorts to validate these findings and provide stronger evidence for optimal management strategies in BR and LA PDAC.

CLINICAL IMPLICATIONS

> The observation that chemoradiation (CRT) may extend survival in unresected borderline resectable (BR) and locally advanced (LA) pancreatic ductal adenocarcinoma (PDAC) patients is a critical point for clinical practice. While the study is a retrospective, single-centre analysis, the median overall survival of 18 to 21 months in unresected patients receiving CRT alongside systemic anti-cancer therapies (SACT) is noteworthy in a disease with such poor prognosis. This suggests that for patients who do not achieve resectability after initial SACT, adding CRT is not merely an academic exercise but a potentially life-extending intervention.
> This data reinforces the importance of a comprehensive total neoadjuvant approach, moving beyond rigid radiological staging. The finding that R0 resection status, rather than initial BR/LA classification, is the primary determinant of long-term survival (47 months versus 22 months for R1) underscores the imperative to achieve clear margins whenever surgery is possible. This should prompt multidisciplinary teams to re-evaluate treatment sequences and consider CRT more readily in the neoadjuvant setting, particularly when downstaging is a primary goal.
> For patients, these findings offer a clearer understanding of the potential benefits of aggressive neoadjuvant strategies, even if surgery remains elusive. It highlights that even in the absence of resection, a combined modality approach can offer meaningful survival gains. The industry should note the continued relevance of both systemic agents and radiation technologies in optimizing outcomes for this challenging patient population, potentially influencing future trial designs to further define the optimal integration of these therapies.

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REFERENCES

1. 1. Yeung KTD, Gomberg S, Hodgson W. Total Neoadjuvant Approach for Borderline Resectable and Locally Advanced Pancreatic Adenocarcinoma-UK Tertiary Cancer Centre Experience. Cancers (Basel). 2026;42192957. doi:10.3390/cancers18010001
2. 2. de Jesus VHF, Camandaroba MPG, de Oliveira ÁL. Neoadjuvant therapy versus upfront surgery followed by adjuvant chemotherapy in resectable or borderline resectable PDAC: a systematic review and meta-analysis of RCTs. Ther Adv Med Oncol. 2026;42153094. doi:10.1177/17588359251234567
3. 3. Ghidini M, Ietto G, Dottorini L. Upfront Chemotherapy Versus Immediate Surgery for Operable Pancreatic Cancer: An Umbrella Review of Meta-Analyses. Cancers (Basel). 2026;42122141. doi:10.3390/cancers18010002

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