



Research Program Update

Novel implantable drug-eluting device
for unresectable pancreatic cancer

FEBRUARY 2021

Research Programs



UNIVERSITY
OF WOLLONGONG
AUSTRALIA



Novel drug-eluting device

Lead Institution:	University of Wollongong
Chief Investigator:	Dr Kara Vine-Perrow
Established:	2019 to current
Cancer type:	Pancreatic
Funding:	Pancare, Cancer Australia
Title:	Implantable drug-eluting device: localised drug delivery for non-resectable pancreatic cancer

Research Programs

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This program is jointly funded by Pancare and Cancer Australia through the Priority-driven Collaborative Cancer Research Scheme (PdCCRS).

This multidisciplinary project, led by Dr Kara Vine-Perrow (pictured at right) is developing a degradable dual-drug eluting polymeric structure that is suitable for implantation into a tumour using an innovative and non-invasive endoscopic procedure, endoscopic ultrasound-guided fine needle injection (EUS-FNI).

Early results have demonstrated that localised delivery of dual chemotherapy regimens from a single implant is efficacious against pancreatic cancer cell lines and in an animal model of pancreatic cancer. This work will become the foundation for future clinical trials.



Research Programs

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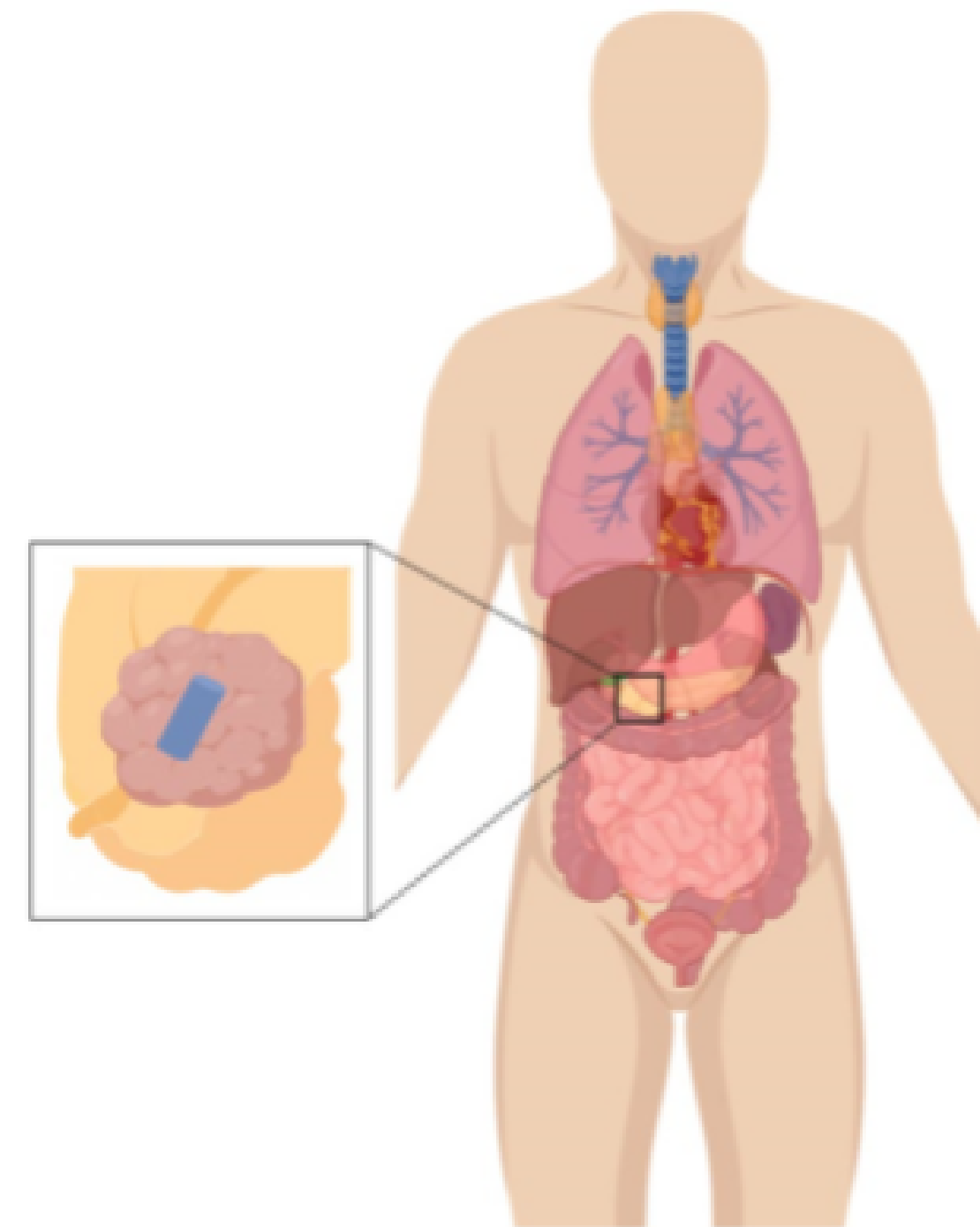
Research Objectives:

The aims of the novel drug delivery system, capable of delivering a combination of current standard of care chemotherapies (gemcitabine and paclitaxel), are to:

- Achieve tumour control
- Convert non-resectable pancreatic cancer cases to resectable
- Improve overall survival

Research Outcomes to January 2021:

- Several phases of the program complete
- Published in high-impact, peer-reviewed journal
- Cancer Institute of NSW Career Development Fellowship award



Research Outcomes

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PUBLICATION 2020

Wade SJ, Sahin Z, Piper A-K, Talebian S, Aghmesheh M, Foroughi J, Wallace GG, Moulton SE, and Vine KL. Dual Delivery of Gemcitabine and Paclitaxel by Wet-Spun Coaxial Fibers Induces Pancreatic Ductal Adenocarcinoma Cell Death, Reduces Tumor Volume, and Sensitizes Cells to Radiation *Adv Healthcare Materials*. 2020; 9: 2001115.

AWARD 2021

Dr Kara Vine-Perrow awarded a Cancer Institute of NSW Career Development Fellowship to continue the next phases of this important work. Localised Immunotherapy for Pancreatic Cancer: Priming the tumour microenvironment to enhance tumour immunity to checkpoint blockade. February 2021.

CONTINUATION 2021-22

Final-phase completion, reporting and publication

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