

Study confirms fibroblast growth factor receptors as targets for pancreatic cancer treatment

December 17 2013, by Annie Deck-Miller

Proteins called fibroblast growth factor receptors (FGFRs) have been implicated in the development of pancreatic cancer, which remains difficult to treat. Researchers at Roswell Park Cancer Institute (RPCI) have now confirmed that FGFRs can be used as treatment targets in preclinical studies, and have identified certain molecular characteristics that could be useful in developing personalized treatments for patients with pancreatic cancer. Study results have been published online first in the *British Journal of Cancer*.

"The FGFR signaling pathway is a valid target in pancreatic cancer, and this study may have revealed a tool that we can use to personalize the treatment of pancreatic cancer in the future," said Wen Wee Ma, MBBS, assistant professor in the Department of Medicine at RPCI.

Ma and colleagues evaluated whether the FGFR signaling pathway could be interrupted or targeted to slow or halt the progression of pancreatic cancer. They also determined whether certain [molecular characteristics](#) of the cancer make it more vulnerable to the effects of treatment with an FGFR-targeting drug, such as dovitinib. FGFR signaling was shown to be a valid therapeutic target using complementary cancer models from [cell lines](#) and [pancreatic tumors](#).

"The tumors derived from [patients](#) mirror the heterogeneous biological and molecular characteristics of the donor patients and provide a more

accurate reflection than cell lines of the effects of treatment in human patients," Ma said.

Inhibiting FGFR signaling using dovitinib achieved significant anticancer effects. The effect was more pronounced in pancreatic cancers that expressed a specific subtype of FGFR called FGFR2 IIIb. Eventually, that information could help clinicians identify patients who would be more likely to benefit from treatment with dovitinib.

Two clinical trials evaluating dovitinib are currently underway at RPCI, and researchers hope to incorporate the findings from this study in the ongoing development of the treatment. The first trial, Phase I Study of Dovitinib (TKI258) in Combination With Gemcitabine and Capecitabine in Advanced Solid Tumors, Pancreatic Cancer and Biliary Cancers, is still accruing patients and can be found at [ClinicalTrials.gov](https://clinicaltrials.gov) (search for Study NCT01497392). The second trial evaluates dovitinib with gemcitabine and nab-paclitaxel and is planned to be available to [pancreatic cancer](#) patients in early 2014.

Provided by Roswell Park Cancer Institute

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