The pancreas consists of two main cell types in its exocrine compartment. Acinar cells, that secrete digestive enzymes and ductal cells that transfer them into the duodenum. Pancreatic ductal adenocarcinoma (PDAC), one of the deadliest type of cancers, is associated with a series of precancerous lesions. Pancreatic intraepithelial neoplasia (PanIN) is one of the most common types of precursor lesions with three different stages; PanIN-1, PanIN-2, and PanIN-3. As PDAC has a histological similarity to ductal cells, it has been thought to arise from ductal cells. However, using genetically engineered mouse models, PDAC has been found to be driven from both acinar and ductal cells. We hypothesize that both cell types will cause PDAC but will have different effects on developing PDAC.

To better understand the role of cell of origin in PDAC and PanIN formation, we used different genetically engineered mouse models with mutations in Kras and the p53 gene to distinguish between acinar-derived tumor and ductal-derived tumor histology and phenotype. In this study, the ductal mice developed tumours quicker, and had relatively shorter lives compared to the acinar models. In addition, ductal mice displayed higher grade lesions, while the acinar mice had a range of low to high grade mucinous glandular PanINs. From these findings, it was concluded that both ductal and acinar cells contributed to the formation of PDAC. However, acinar cells with the same mutations as ductal cells, took longer to develop lesions and therefore initiate PDAC.

Themes:

Check (highlight) the most applicable theme according to the abstract.

| X Innovation and Technology | Health and Wellness | Culture and Society | Sustainability and Conservation |

Comments:

Interesting and well written- but needs a little clarity.

I think basically you are saying PDAC can develop from ductal or acinar cells, previously thought due to ductal only but you think also from acinar. However ductal progress most rapidly into PDAC and later stages.