

CO-ORGANIZED EVENT

5th World Congress on **Hepatitis & Liver Diseases**
&
2nd International Conference on **Pancreatic Cancer & Liver Diseases**
August 10-12, 2017 London, UK

Metformin suppresses cancer initiation and progression in genetic mouse models of pancreatic cancer

Qingyong Ma and Ke Chen

First Affiliated Hospital of Xi'an Jiaotong University, China

Accumulating evidence has revealed the cancer preventive and therapeutic effects of metformin, one of the most widely prescribed medications for type 2 diabetes mellitus. However, its role in pancreatic cancer is not fully elucidated. Herein, we aimed to further study the preventive and therapeutic effects of metformin in genetically engineered mouse models of pancreatic cancer. We treated *Kras*^{LSL-G12D/+}; *Pdx1-Cre* (KC) mice with vehicle or metformin for 4 weeks. Chronic pancreatitis was induced by peritoneal injection of cerulein. *Kras*^{LSL-G12D/+}; *Trp53*^{fl/+}; *Pdx1-Cre* (KPC) mice were used to investigate the therapeutic efficiency of metformin. We found that following metformin treatment, acinar-to-ductal metaplasia (ADM) and mouse pancreatic intraepithelial neoplasia (mPanIN) were decreased in KC mice. Chronic pancreatitis induced a stroma-rich and duct-like structure and increased the formation of ADM and mPanIN lesions, in line with an increased cytochrome 19 (CK19)-stained area. Metformin treatment diminished chronic pancreatitis-mediated ADM and mPanIN formation. In addition, it alleviated the percent area of Masson's trichrome staining. In KPC mice, metformin impaired tumor growth and decreased the incidence of abdominal invasion. More importantly, it prolonged the overall survival. In conclusion, we demonstrate that metformin shows promising effects in the prevention of pancreatic tumorigenesis and pancreatic cancer progression.

Biography

Qingyong Ma has completed his PhD from Queen's University of Belfast during 1992 to 1996. He is the Professor and Head of the Department of Surgery, First Affiliated Hospital, Xi'an Jiaotong University, Xi'an, China. He has his expertise in Pancreatitis and Pancreatic Cancer. He has published more than 100 papers in reputed journals and has been serving as an Editorial Board Member of reputed.

qyma56@xjtu.edu.cn

Notes: