CURRICULUM VITAE

PERSONAL INFORMATION

Family Name Chen
Given Name Jiang
Date of Birth May 9, 1985
Nationality China
Address Department of Surgery, Sir Run Run Shaw Hospital, Zhejiang University, 3 East Qinchun Road, Hangzhou, P.R.China (310016)
E-mail

EDUCATION

Wenzhou Medical University **Bachelors of Clinical Medicine** **09/2004 - 06/2009**

- **GPA Rank:** Top 10%
- **Awards:** Excellent student, Outstanding Graduate Leader, Outstanding Graduate Leader

Wenzhou Medical University **Masters of General Surgery** **09/2009 - 06/2012**

- **GPA Rank:** Top 10%
- **Awards:** Outstanding Graduate Leader, Excellent Social Practice Individual, Excellent Graduate Awards

Zhejiang University **Doctors of General Surgery** **09/2012 – 03/2016**

- **GPA Rank:** Top 10%
- **Awards:** Excellent Graduate Awards, Excellent Cadre of Students, Guanghua School of Medicine Scholarship (Number:GJ15A002)

PRACTICAL EXPERIENCES

Sir Run Run Shaw Hospital, Zhejiang University **06/2008 - 07/2009**

- Put clinical theories into practical application **as an intern in different hospital departments**
- Awarded Outstanding Intern due to the excellent performance in the hospital

Laboratory of immunology and microbiology, Wenzhou **09/2009 - 06/2010**

- Learned **laboratory techniques** and **subject forefront information** for tumor immunology
- Published two articles on basic theories and clinical application

Department of General Surgery, First Affiliated Hospital of Wenzhou Medical University 06/2010 - 07/2012

- Participated in the clinical practice and worked **as a resident** to perform follow-up visits for patients
- Finished several reports about follow-up studies and published a case-report in a famous medical journal

Life Sciences Institute, Zhejiang University 10/2013 - 03/2016

- Carried out research on **molecular targeted therapy of Hepatocellular carcinoma (Program 1)** as leader
- Participated in **Program 3---The Original of The Primary Liver Cancer in a new model** as leader
- Analyzed the experimental data and clinical samples, a research article has been compiled

Department of General Surgery, Sir Run Run Shaw Hospital, Zhejiang University 03/2016 – Present

- Put clinical theories into practical application **as an Resident in Department of General Surgery**
- Presented orally the paper entitled "Sorafenib-resistant hepatocellular carcinoma stratified by phosphorylated ERK activates PD-1 immune checkpoint" in International Digestive Disease Forum 2016 in Hong Kong
- Presented an e-Poster entitled "Unc-51 like autophagy activating kinase 1 knockout protects against carbon tetrachloride-induced liver fibrosis: the role of autophagy" in International Digestive Disease Forum 2016 in Hong Kong

RESEARCH EXPERIENCES

11/2013-03/2016 Sorafenib-resistant hepatocellular carcinoma stratified by phosphorylated ERK activates PD-1 immune checkpoint (published on Oncotarget, first author)

Abstract

Sorafenib is a multikinase inhibitor approved as the first line treatment for late stage hepatocellular carcinoma (HCC). Due to its significant variation in clinical benefits among patients, defining prognostic biomarkers for sorafenib sensitivity in HCC would allow targeted treatment. Phosphorylated extracellular signaling-regulated kinase (pERK) was proposed to predict the response to sorafenib in HCC, but clinical supports are mixed or even contradictory. Here we found that pERK expression levels are variable in different nodules from individual patient liver. Xenografts derived from resected tumors are resistant to sorafenib inhibition when expressing low levels of pERK. This correlation of low pERK levels and sorafenib resistance is corroborated by histological characterization of chemical-induced and genetic mouse models for pERK-positive and pERK-negative HCC respectively, as well as computed tomography (CT) imaging of patient tumors with validated pERK expression. Mouse and human HCC samples expressing low pERK show strong inflammatory infiltrating cells and significant enrichment of intratumoral CD8+ cytotoxic T lymphocytes that express programmed death receptor-1 (PD-1). These pERK-PD-1+ patients have poorer overall and disease-free survival than pERK+PD-1- patients. In conclusion, our data suggest that anti-PD-1 immunotherapy might complement sorafenib in treating HCC patients by targeting sorafenib-resistant cancer cells, and the dual pERK and PD-1 biomarkers would help HCC patient selection to achieve optimal clinical benefits.

11/2013-Present The role and mechanism of bone marrow-derived cells in hepatocellular carcinoma progression (supported by National Natural Science Foundation of China (81201942)) (MS prepare, First author)

Abstract

The role of bone marrow-derived stem cells in tumor formation, invasion, metastasis and targeted therapy is of very important issue of concern in recent years. But the study of biology effect of bone marrow-derived cells on hepatocellular carcinoma was few, and mostly confined to bone marrow mesenchymal stem cells, and their results more controversial. Recently, our study group achieved initial results in the research on the role of bone marrow-derived stem cells in HCC formation. Our results suggest that bone marrow-derived stem cells are not the cellular origin of HCC, but involved in the development of HCC by inflammatory infiltration and differentiation into stromal cells. Basing on the above findings, this project is first systematically planned to study the biology

role of bone marrow mesenchymal stem cells and hematopoietic stem cells in HCC growth, invasion and metastasis by three distinct tumorigenic, invasive, metastatic human HCC cell lines(HepG2, SMMC-772, and MHCC97). Meanwhile, we will try to elucidate the molecular mechanism and filter out the 1-2 key role factor by molecular biology experimental techniques such as genome-wide cDNA microarray analysis, the Luminex liquid chip technology, sh-RNA gene silencing techniques. Our aim is to further reveal HCC pathogenesis, and provide new ideas for exploring new methods to improve HCC prognosis

11/2013-Present Research on The Original of The Primary Liver Cancer in a new DDB1$^{F/F}$; Alb-Cre$^{+/-}$ HCC model (supported by Zhejiang Provincial Natural Science Foundation of China (LZ14H160002)) (in research, first author)

Abstract

Tumors are believed to originate from the transformation of normal stem cells. Current evidence indicates that bone marrow derived stem cells(BMDCs) are frequently recruited to sites of tissue injury and inflammation, contribute to tissue regeneration and repair. For example, bone marrow derived stem cells have an important role in liver regeneration and repair. These suggest that bone marrow derived stem cells should also represent a potential source of malignancy. In 2004, Hougton et al. reported that mouse gastric cancer induced by Helicobaeter felis infection originated from bone marrow derived cells. The finding strongly supports that tumors derive from bone marrow derived stem cells. In this study, our aim is to investigate whether primary liver cancer also originates from bone marrow derived stem cells in a new DDB1$^{F/F}$; Alb-Cre$^{+/-}$ HCC model, whose clinical and pathological characteristics are more similar to human HCC.

EXPERIMENTAL SKILLS

- Microsurgery in experimental animals
- Establishment of CCl4-induced liver cirrhosis model in mice
- Establishment of DEN-induced HCC model in mice
- Establishment of bone marrow transplantation mice model
- Establishment of partial liver resection mice model
- Establishment of HCC mice model by Orthotopic or Xenograft
- Establishment of syngenic HCC mice model
- Cell culture
- cell proliferation assay
- Hematoxylin-eosin staining
- ELISA
- Immunohistochemistry
- Western blotting
- RT-PCR /qPCR
- Gene silencing
- cell Invasion Assay

ENGLISH PROFICIENCY

- College English Test Band 4: 500
- College English Test Band 6: 486

PUBLICATIONS AND UNDER REVIEW PAPERS

(1) Chen, Jiang(#)，Yu, Yaojun(#)，Ji, Tong(#)，Ma, Rui，Chen, Mingming，Li, Gaofeng，Li, Feibo，Ding, Qiong，Kang, Qingsong，Huang, Diyu，Liang, Xiao，Lin, Hui，Cai, Xiujun(*)，Clinical implication of Keap1 and phosphorylated Nrf2 expression in hepatocellular carcinoma.，Cancer Med，2016.10.01，5（10）：2678~2687

(2) Chen, Jiang，Jin, Renan，Zhao, Jie，Liu, Jinghua，Ying, Hanning，Yan, Han，Zhou, Senjun，Liang, Yuelong，Huang, Diyu，Liang, Xiao，Yu, Hong，Lin, Hui(*)，Cai, Xiujun(*)，Potential molecular, cellular and microenvironmental mechanism of sorafenib resistance in hepatocellular carcinoma.，Cancer Lett，2015.10.10，367（1）：1~11

(3) Chen, Jiang(#)，Ji, Tong(#)，Zhao, Jie，Li, Gaofeng，Zhang, Jian，Jin, Renan，Liu, Jinghua，Liu, Xiaolong，Liang, Xiao，Huang, Diyu，Xie, Anyong，Lin, Hui(*)，Cang, Yong(*)，Cai, Xiujun(*)，Sorafenib-resistant hepatocellular carcinoma stratified by phosphorylated ERK activates PD-1 immune checkpoint.，Oncotarget，2016.7.5，7（27）：41274~41284

(4) Yuelong Liang(#), Jiang Chen(#), Qingsong Yu, Tong Ji, Bin Zhang, Junjie Xu, Yi Dai, Yangyang Xie, Hui Lin, Xiao Liang & Xiujun Cai. Phosphorylated ERK is a potential prognostic biomarker for Sorafenib response in hepatocellular carcinoma. Cancer Medicine, 2017.10.14,

(5) Ma, Rui(#)，Chen, Jiang(#)，Jiang, Shaojie，Lin, Shuang，Zhang, Xiuming，Liang, Xiao(*)，Up regulation of NAT10 promotes metastasis of hepatocellular carcinoma cells through epithelial-to-mesenchymal transition.，Am J Transl Res，2016.10.15，8（10）：4215~4223

(6) Dong Cen (#), Jiang Chen (#), Zheyong Li, Jie Zhao, Xiujun Cai*. Prognostic significance of cytokeratin 19 expression in pancreatic neuroendocrine tumor: A meta-analysis. PLoS One. 2017 Nov 14;12(11): e0187588.

(7) Junjie Xu(#), Longbo Zheng(#), Jiang Chen(#), Yin Sun, Hui Lin, Ren-an Jin, Minyue Tang, Xiao Liang* and Xiujun Cai*. Increasing AR by HIF-2α inhibitor (PT-2385) overcomes the side-effects of sorafenib by suppressing hepatocellular carcinoma invasion via alteration of pSTAT3, pAKTand pERK signals. Cell Death and Disease (2017) 8, e3095.

(8) Ji, Tong(#)，Li, Gaofeng(#)，Chen, Jiang(#)，Zhao, Jie，Li, Xi，Lin, Hui，Cai, Xiujun(*)，Cang, Yong(*)，Distinct role of interleukin-6 and tumor necrosis factor receptor-1 in oval cell- mediated liver regeneration and inflammation-associated hepatocarcinogenesis.，Oncotarget，2016.10.11，7（41）：66635~66646

(9) Chen, Jiang，Zhao, Jie，Ma, Rui，Lin, Hui，Liang, Xiao，Cai, Xiujun(*)，Prognostic significance of E-cadherin expression in hepatocellular carcinoma: a meta-analysis.，PLoS One，2014.08.05，9（8）：e103952~e103952

(10) Chen, Jiang，Liu, Jinghua，Jin, Renan，Shen, Jiliang，Liang, Yuelong，Ma, Rui，Lin, Hui，Liang, Xiao，Yu, Hong，Cai, Xiujun，Cytoplasmic and/or nuclear expression of beta-catenin correlate with poor prognosis and unfavorable clinicopathological factors in hepatocellular carcinoma: a meta-analysis.，PLoS One，2014.11.17，9（11）：e111885~e111885

(11) Chen, Jiang，Ma, Rui，Yang, Shouzhang，Lin, Shuang，He, Shilin，Cai, Xiujun(*)，Perioperative outcomes of laparoscopic versus open splenectomy for nontraumatic diseases: a meta-analysis.，Chin Med J (Engl)，2014.01.01，127（13）：2504~2510

(12) Xiao, Liang(#), Jiang, Chen(#), Xiujun, Cai(*). Unc-51 Like Autophagy Activating Kinase 1 Knockout Protects Against Carbon Tetrachloride-induced Liver Fibrosis: The Role of Autophagy. Clinical Gastroenterology and Hepatology. January 2017,15(1), Page e23, (Abstract).

(13) Jin, Shengfang(*)，Chen, Jiang，Chen, Lizao，Histen, Gavin，Lin, Zhizhong，Gross, Stefan，Hixon, Jeffrey，Chen, Yue，Kung, Charles，Chen, Yiwei，Fu, Yufei，Lu, Yuxuan，Lin, Hui，Cai, Xiujun，Yang, Hua，Cairns, Rob A，Dorsch, Marion，Su, Shinsan M，Biller, Scott，Mak, Tak W(*)，Cang, Yong(*)，ALDH2(E487K) mutation increases protein turnover and promotes murine hepatocarcinogenesis.，ProcNatlAcadSci U S A，2015.7.21，112（29）：9088~9093

(14) Ma, Rui，Chen, Jiang，Liang, Yuelong，Lin, Shuang，Zhu, Linghua，Liang, Xiao，Cai, Xiujun(*)，Sorafenib: A potential therapeutic drug for hepatic fibrosis and its outcomes.，Biomed Pharmacother，2017.1.22，88：459~468

(15) Zhao, Jie，Chen, Jiang，Lin, Hui，Jin, Renan，Liu, Jinghua，Liu, Xiaolong，Meng, Ning，Cai, Xiujun(*)，The Clinicopathologic Significance of BAF250a (ARID1A) Expression in Hepatocellular Carcinoma.，Pathol Oncol Res，2016.7.01，22（3）：453~459

(16) Ma Rui，Chen Jiang，Li Zheyong，Tang Jiacheng，Wang Yifan，CaiXiujun(*)，Decorin accelerates the liver regeneration after partial hepatectomy in fibrotic mice，Chinese Medical Journal，2014.7.20，127（14）：2679~2685

(17) Li, Gaofeng(#)，Ji, Tong(#)，Chen, Jiang，Fu, Yufei，Hou, Lidan，Feng, Yan，Zhang, Tingyue，Song, Tianyu，Zhao, Jie，Endo, Yoko，Lin, Hui，Cai, Xiujun(*)，Cang, Yong(*)，CRL4DCAF8 Ubiquitin Ligase Targets Histone H3K79 and Promotes H3K9 Methylation in the Liver.，Cell Rep，2017.2.7，18（6）：1499~1511

(18) Xu, Junjie(#)，Lin, Hui(#)，Li, Gonghui(#)，Sun, Yin，Chen, Jiang，Shi, Liang，Cai, Xiujun(*)，Chang, Chawnshang(*)，The miR-367-3p Increases Sorafenib Chemotherapy Efficacy to Suppress Hepatocellular Carcinoma Metastasis through Altering the Androgen Receptor Signals.，EBioMedicine，2016.10.01，12：55~67

(19) Xu, Junjie(#)，Lin, Hui(#)，Li, Gonghui(#)，Sun, Yin，Shi, Liang，Ma, Wen-Lung，Chen, Jiang，Cai, Xiujun(*)，Chang, Chawnshang(*)，Sorafenib with ASC-J9(R) synergistically suppresses the HCC progression via altering the pSTAT3-CCL2/Bcl2 signals.，Int J Cancer，2017.2.1，140（3）：705~717

(20) Liu, Jinghua，Li, Jianbo，Fu, Weiwei，Tang, Jiacheng，Feng, Xu，Chen, Jiang，Liang, Yuelong，Jin, Ren，Xie, Anyong，Cai, Xiujun(*)，Adenoviral delivery of truncated MMP-8 fused with the hepatocyte growth factor mutant 1K1 ameliorates liver cirrhosis and promotes hepatocyte proliferation.，Drug Des DevelTher，2015.10.16，9：5655~5667

(21) Ma, Rui，Feng, Yili，Lin, Shuang，Chen, Jiang，Lin, Hui，Liang, Xiao，Zheng, Heming，Cai, Xiujun(*)，Mechanisms involved in breast cancer liver metastasis.，J Transl Med，2015.2.15，13：64~64

(22) Zhang, Xiaofeng(#)，Liu, Jinghua(#)，Liang, Xiao，Chen, Jiang，Hong, Junjie，Li, Libo，He, Qiang(*)，Cai, Xiujun(*)，History and progression of Fat cadherins in health and disease.，Onco Targets Ther，2016.12.01，9：7337~7343

(23) Feng, Xu，Zhu, Kelei，Liu, Jinghua，Chen, Jiang，Tang, Jiacheng，Liang, Yuelong，Jin, Renan，Liang, Xiao，Cai, Xiujun(*)，The evaluative value of Sema3C and MFN2 co-expression detected by immunohistochemistry for prognosis in hepatocellular carcinoma patients after hepatectomy.，Onco Targets Ther，2016.05.30，9：3213~3221

(24) Cai, Xiujun(*)，Zhao, Jie，Wang, Yifan，Yu, Hong，Liang, Xiao，Jin, Renan，Meng, Ning，Chen, Jiang，A Left-Sided, Purely Laparoscopic Approach for Anatomic Caudate Hepatectomy: A Single-Center Experience，Journal of Laparoendoscopic& Advanced Surgical Techniques，2016.2.1，26（2）：103~108

(25) Zhang, Bin(#)，Pan, Yu，Chen, Ke，Maher, Hendi，Chen, Ming-Yu，Zhu, He-Pan，Zhu, Yi-Bin，Dai, Yi，Chen, Jiang，Cai, Xiu-jun(*)，Laparoscopy-Assisted versus Open Hepatectomy for Live

Liver Donor: Systematic Review and Meta-Analysis., Canadian Journal of Gastroenterology and Hepatology. 2017. 1-12