



ISSN 1001-5256  
CN 22-1108/R  
CODEN LGZAEM

# 临床肝胆病杂志

LINCHUANG GANDANBING ZAZHI

JOURNAL OF CLINICAL HEPATOLOGY

第37卷 第9期 2021年9月

Vol. 37 No. 9 Sep. 2021

www.lcgdbzz.org

- / 中国百种杰出学术期刊 (2019)
- / 中国精品科技期刊 (2017—2023)
- / 中国精品科技期刊顶尖学术论文(F5000)项目 来源期刊
- / 中文核心期刊
- / 中国科技核心期刊
- / RCCSE中国核心学术期刊 (A)
- / 《世界期刊影响力指数 (WJCI) 期刊名录 (2020科技版)》 统计源期刊
- / 《中国学术期刊文摘》数据库 (CSAD) 来源期刊
- / 《中国学术期刊影响因子年报》统计源期刊
- / 《中国生物医学期刊文献数据库》 (CMCC) 来源期刊
- / 《中国生物医学文献数据库》 (CBMdisc) 来源期刊
- / 瑞士《健康网络首创研究获取》 (HINARI) 来源期刊 (1985—)
- / 瑞典《期刊公开获取指南》 (DOAJ) 来源期刊 (2013—2015, 2017—)
- / 俄罗斯《文摘杂志》 (AJ, VINITI) 来源期刊 (2013—)
- / 美国《剑桥科学文摘》 (CSA) 来源期刊 (2011—)
- / 英国《国际农业与生物科学研究中心》 (CABI) 来源期刊 (2011—)
- / 美国《艾博思科数据库》 (Eh, EBSCOhost) 来源期刊 (2013—)
- / 《日本科学技术振兴机构数据库 (中国)》 (JST China) 来源期刊 (2018—)
- / 世界卫生组织《西太平洋地区医学索引》 (WPRIM) 来源期刊 (2016—)
- / 美国《化学文摘 (网络版)》 (CA) 来源期刊 (2011—2017)
- / 波兰《哥白尼索引》 (IC) 来源期刊 (2011—2015)
- / 美国《乌利希期刊指南 (网络版)》 (Ulrichsweb) 注册期刊 (2018—)

ISSN 1001-5256



9 771001 525212

F5000



中华人民共和国教育部主管  
吉林大学主办

主管单位:中华人民共和国教育部  
 主办单位:吉林大学  
 编辑:《临床肝胆病杂志》编辑部  
 通信地址:吉林省长春市东民主大街519号  
 邮政编码:130061  
 电话号码:0431-88782542/3542  
 电子信箱:lsgdb@vip.163.com  
 官方网站:www.lsgdbzz.org  
 官方微博:http://weibo.com/lsgdbzz  
 官方微信:lsgdbzz1985

出版单位:《临床肝胆病杂志》编辑部  
 通信地址:吉林省长春市东民主大街519号  
 邮政编码:130061

学术支持:中华医学会肝病学会  
 名誉主编:庄辉 谭毓铨  
 编委会主席:华树成  
 顾问:王红阳 王福生 田志刚  
 刘允怡(中国香港)  
 朱 诚 汤钊猷 吴孟超  
 李兆申 汪忠镐 陈可冀  
 陈孝平 陈培哲(中国台湾)  
 郑树森 侯云德 赵玉沛  
 闻玉梅 骆抗先 翁心华  
 斯崇文 曾民德 董家鸿  
 樊代明 樊 嘉 黎介寿

主 编:贾继东 牛俊奇(执行)  
 共同主编:魏 来 侯金林 刘 平  
 高 斌 段钟平 王贵强  
 副 主 编:王广义 沈中阳 胡义扬  
 钱家鸣 高普均

编辑部主任:朱耀权  
 编辑部副主任:高沿航  
 广告经营许可证:2201005030549  
 印 刷:吉林华源印务有限公司  
 国内发行:吉林省报刊发行局  
 国外发行:中国国际图书贸易集团有限公司  
 (北京399信箱,100044)  
 代号:M5995

订 购:全国各地邮局(所)  
 邮发代号:12-80  
 国内定价:40元/册;480元/年  
 中国标准连续出版物号:  
 ISSN 1001-5256  
 CN 22-1108/R



网站 微博 微信

作者在本刊发表的文章版权  
 归临床肝胆病杂志编辑部所有

## “中医药治疗原发性肝癌的研究进展”重点号

本期执行主编:李秀惠

### 目 次

#### 述评

从病因病机入手提高中医药治疗原发性肝癌的疗效  
 ..... 李秀惠,袁慧鑫(2001)

#### 专家论坛

原发性肝癌中医药诊疗原则及方案构建 ..... 赵文霞,陈欣菊(2005)  
 中医药治疗原发性肝癌的方法学研究  
 ..... 王伟芹,高占华,尹常健(2009)  
 中医药治疗原发性肝癌的切入点与难点 ..... 钊梦媛,张国梁(2016)  
 对原发性肝癌从脾胃论治“调护中洲”的理论基础与  
 临床意义的研讨 ..... 朱方石(2025)

#### 热点·视点·观点

慢加急性肝衰竭长期预后转归的等级分析:同病不同结局  
 ..... 董金玲,陈煜(2030)

#### 学术争鸣

不确定慢性乙型肝炎应否治疗? ..... 庄辉(2033)

#### 指南与规范

肝硬化门静脉高压症多学科诊治(基于肝静脉压力梯度)专家共识  
 ..... 北京医师协会门静脉高压专科医师分会,  
 中国研究型医院学会肝病专业委员会门静脉高压学组,  
 中国研究型医院学会肝病专业委员会(2037)

慢加急性肝衰竭中西医结合诊疗专家共识  
 ..... 中国中西医结合学会(2045)

肝移植围手术期血管并发症诊治专家共识(2021版)  
 ..... 中华医学会器官移植学分会围手术期管理学组(2054)

胆道肿瘤患者的营养治疗共识  
 ..... 中国抗癌协会肿瘤营养专业委员会,  
 中华医学会肠外肠内营养学分会(2058)

## 指南解读

《IgG4 相关性疾病诊治中国专家共识》解读 ..... 周佳鑫, 张文(2062)

## 论著

### 病毒性肝炎

APRI、FIB-4 和 GPR 对慢性乙型肝炎肝脏炎症程度的诊断价值 ..... 周新兰, 马鑫, 王雁冰, 等(2066)

淋巴细胞亚群检测对抗病毒治疗的慢性乙型肝炎患者 HBsAg 下降的预测价值  
..... 彭真, 靳慧鸣, 宁会彬, 等(2071)

抗病毒治疗慢性乙型肝炎合并非酒精性脂肪性肝病的效果观察 ..... 卿玲, 黄伟强, 李晓鹤, 等(2075)

### 肝纤维化及肝硬化

凝血酶原国际标准化比值/白蛋白对失代偿期肝硬化患者预后的预测价值  
..... 孟淑慧, 胥莹, 邹松龙, 等(2081)

肝硬化食管静脉曲张内镜治疗术后早期再出血的危险因素分析 ..... 张妍, 丁惠国(2087)

肝硬化食管胃静脉曲张出血患者胃镜治疗术后再出血的影响因素分析 ..... 连佳, 韩涛, 向慧玲, 等(2092)

白蛋白-胆红素评分联合腹水中性粒细胞计数及降钙素原对肝硬化腹水患者发生  
自发性细菌性腹膜炎的预测价值 ..... 江萍, 豆仁成, 崔子瑾, 等(2097)

NLRP3 炎性体在胆总管结扎诱导的肝纤维化大鼠模型中的表达特点 ..... 周蒙恩, 陈懿榕, 张娜, 等(2102)

### 肝脏肿瘤

AFP 联合 GGT/AST 对 HBV 相关肝细胞癌的诊断价值 ..... 蔡馨, 陈娟娟, 汤冬玲, 等(2109)

BCLC 0/A 期肝细胞癌根治性切除术后复发评分预警系统的建立及其预测价值分析  
..... 刘胜, 唐豪佑, 杨洋, 等(2113)

立体定向放疗序贯仑伐替尼治疗中晚期原发性肝癌的效果与安全性分析  
..... 纪晓权, 张爱民, 张弢, 等(2120)

经肝动脉化疗栓塞术中应用三氧化二砷载药微球与三氧化二砷碘化油治疗  
不可切除原发性肝癌的成本效益分析 ..... 王文辉, 段旭华, 李浩, 等(2125)

肝脏三维可视化重建技术在儿童复杂肝母细胞瘤肝切除术中的应用价值  
..... 赵颀, 叶进冬, 李华丽, 等(2130)

药对“川楝子-延胡索”治疗肝癌的网络药理学研究 ..... 章甜, 贾思静, 孙冬雪, 等(2136)

## 其他肝病

- 山东沿海地区非酒精性脂肪性肝病患者血清 ALT、AST、GGT 和 ALP 与血压的相关性分析  
 ..... 刘怡静,赵真真,刘守胜,等(2144)
- 慢加急性肝衰竭合并细菌感染患者的临床特征及预后影响因素分析..... 刘晓燕,胡瑾华,李晨,等(2148)
- 高原地区体外肝切除联合自体肝移植术治疗晚期肝泡型包虫病的术后并发症及其防治策略  
 ..... 田青山,冯少培,郭亚民,等(2153)
- 间接法建立长春地区成人肝功能四项生化指标参考区间 ..... 王艺婷,李雪文,邢东洋,等(2161)
- 协同创新理念下区域性肝脏病理中心科研体系建设的实践与思考 ..... 汤鸿,朱颖炜,陆忠华(2167)

## 胆道疾病

- 新疆地区 FGB 基因多态性对纤维蛋白原水平及胆囊结石发病的影响  
 ..... 阿丽叶古丽·艾皮热,皮尔地瓦斯·麦提玉素甫,王俭,等(2171)

## 病例报告

- 胸膜腔内注射聚桂醇治疗难治性肝性胸水 1 例报告 ..... 李常洲,李建辉,郝欣,等(2177)
- 肝癌肉瘤合并肝细胞癌 1 例报告 ..... 李日,郭怀斌,梁泽,等(2180)
- 2 型糖尿病合并糖原性肝病 1 例报告 ..... 马仁舒,武彤,于鸽,等(2183)
- Alagille 综合征 1 例报告 ..... 汤珊,白丽,宋文艳,等(2185)
- 亲属活体肝移植治疗儿童 Caroli 病 1 例报告 ..... 赵宇翔,贾磊,李海洋(2188)

## 综述

- HBV 及其相关蛋白泛素化修饰研究进展 ..... 涂文辉,刘锦,朱传武(2191)
- 中药单体调控氧化应激抗肝纤维化的机制和价值 ..... 周志文,李姍,刘湘花,等(2198)
- 几丁质酶样蛋白 40 与肝纤维化的关系 ..... 史佳伟,黄晶(2203)
- 宏基因组学测序技术在肝硬化脓毒症中的应用 ..... 贝小歌,陈金军,黎倍伶(2206)
- N6-甲基腺苷在肝细胞癌发生发展中的作用 ..... 马可,赵礼金(2210)
- 非酒精性脂肪性肝病相关肝外疾病的研究进展 ..... 朱露颖,李雨晨,邓利华,等(2215)
- 自噬相关信号分子在非酒精性脂肪性肝病中的作用 ..... 贺晶霞,安秀琴,刘近春(2220)
- 昼夜节律及其相关基因与非酒精性脂肪性肝病的关系 ..... 赵晨露,赵文霞(2225)
- 肠道菌群在代谢相关脂肪性肝病中的作用 ..... 杨礼丹,何詠,安振梅(2231)
- 转录激活因子 3 与慢性肝脏疾病相关性的研究进展 ..... 辜群利,李晖,邓秀秀,等(2236)
- 微小 RNA 在胆管癌发生发展中的作用 ..... 陈圣,陈国想,何中明,等(2241)
- 靶向肿瘤微环境治疗胰腺癌的新进展 ..... 张飞宇,阿迪拉·亚克普,赵金明,等(2246)

国外期刊精品文章简介

- 非侵入性肝纤维化评估预警慢性乙型肝炎患者慢加急性肝衰竭的发生 ..... 林世德(2080)
- 补体因子在酒精性肝炎患者诊断及预后中的价值 ..... 范修德(2176)
- MLKL 在酒精性肝病与非酒精性脂肪性肝病中的活化和潜在作用及其机制研究 ..... 吴小琴(2235)

读者·作者·编者

- 勘误 ..... (2124)

消息

- 《临床肝胆病杂志》2022 年 1-5 期“重点号”选题及各期执行主编 ..... (2036)

本刊稿约见 2021 年第 37 卷第 1 期第 239 页

本期审稿专家:王贞彪 王继恒 王 萍 王 甦 戈宏焱 毛乾国 方步武 田 辉 朱传武 乔士兴 任永强 刘小斌  
 刘召波 刘学恩 祁兴顺 孙克伟 阳学风 杜端明 李长政 李运红 李志群 李 艳 李 海 杨长青  
 杨 丽 杨宝山 杨晋辉 吴金明 吴河水 吴 捷 吴 静 张平安 张立新 张成武 张宏伟 张 杰  
 张凯宇 张 勇 张锦生 张缵云 陈卫昌 陈 功 陈 刚 陈茂伟 陈明谙 陈晓品 陈晓蓉 周永健  
 赵 平 赵建学 赵景民 赵登秋 胡爱荣 胡瑾华 段志军 宣世英 聂常富 贾玉杰 徐有青 徐 斌  
 翁亚丽 郭 伟 郭 森 黄长文 梁 静 彭海燕 葛辉玉 董育玮 董高宏 董 菁 程红岩 程勇前  
 焦 健 鲁玉辉 谢正元 詹江华 管小琴 熊 勇 樊和斌 滕晓东 颜学兵 潘孝本 戴 炜

责任编辑:刘晓红 林 姣

统计学编辑:刘晓红

CN22-1108/R \* 1985 \* m \* 16 \* 256 \* zh \* P \* ¥40.00 \* 4000 \* 49 \* 2021-09 \* n

**Supervisor**

Ministry of Education of the People's  
Republic of China

**Sponsor**

Jilin University

**Editing & Publishing**

Editorial Board of Journal of Clinical Hepatology  
Common. Add: 519 Dongminzhu Road,  
Changchun, China

Post Code: 130061

Tel: 86-431-88782542; 86-431-88783542

E-mail: lcgdb@vip.163.com

http://www.lcgdbzz.org

**Academic Support**

Chinese Society of Hepatology,  
Chinese Medical Association

**Honorary Editors – in – Chief**

ZHUANG Hui, TAN Yuquan

**Chairman of the Editorial Board**

HUA Shucheng

**Consultants**

WANG Hongyang, WANG Fusheng, TIAN Zhigang,  
LIU Yunyi, ZHU Cheng, TANG Zhaoyou,  
WU Mengchao, LI Zhaoshen, WANG Zhonggao,  
CHEN Keji, CHEN Xiaoping, CHEN Peizhe,  
ZHENG Shusen, HOU Yunde, ZHAO Yupei,  
WEN Yumei, LUO Kangxian, WENG Xinhua,  
SI Chongwen, ZENG Minde, DONG Jiahong,  
FAN Daiming, FAN Jia, LI Jiesshou

**Editor – in – Chief**

JIA Jidong

**Executive Deputy Chief Editor**

NIU Junqi

**Co – Editors – in – Chief**

WEI Lai, HOU Jinlin, LIU Ping,  
GAO Bin, DUAN Zhongping, WANG Guiqiang

**Vice Editors – in – Chief**

WANG Guangyi, SHEN Zhongyang, HU Yiyang,  
QIAN Jiaming, GAO Pujun

**Managing Director**

ZHU Yaoquan

**Vice Managing Director**

GAO Yanhang

**The Advertising Business License**

2201005030549

**Printing Unit**

Jilin Huayuan Printing Co., Ltd.

**Issuing Scope**

Public issue

**Overseas Distributor**

China International Book Trading Corporation  
P. O. Box 399, Beijing 100044, China  
Code No. M5995  
Dewey #:616.362; CODEN LGZAEM  
Send by mail cod No.:5995M  
CNY 40/Copy, CNY 480/Year

**Copyright @ by the Journal of  
Clinical Hepatology**

**Theme Issue:** Research advances in traditional Chinese medicine treatment of primary liver cancer

**Executive Chief Editor:** Li Xiuhui

**Contents**

**Editorial**

Improving the efficacy of traditional Chinese medicine in treatment of primary liver cancer based on etiology and pathogenesis ..... (2001)  
*LI Xiuhui, YUAN Huixin*

**Discussions by experts**

Principles and regimens for traditional Chinese medicine diagnosis and treatment of primary liver cancer ..... (2005)  
*ZHAO Wenxia, CHEN Xinju*

A methodological study of traditional Chinese medicine treatment of primary liver cancer ..... (2009)  
*WANG Weiqin, GAO Zhanhua, YIN Changjian*

Breakthrough points and difficulties in traditional Chinese medicine treatment of primary liver cancer ..... (2016)  
*ZHAO Mengyuan, ZHANG Guoliang*

Theoretical basis and clinical significance of treating primary liver cancer from the perspective of “regulating and protecting Zhongzhou” in the spleen and stomach ..... (2025)  
*ZHU Fangshi*

**Hotspot · Perspective · Viewpoint**

Prognostic grade of acute – on – chronic liver failure: Different outcomes of the same disease ..... (2030)  
*DONG Jinling, CHEN Yu*

**Academic contention**

Should chronic hepatitis B in the indeterminate phase be treated? ..... (2033)  
*ZHUANG Hui*

**Guidelines**

Expert consensus on multidisciplinary diagnosis and treatment of cirrhotic portal hypertension (based on hepatic venous pressure gradient) ... (2037)  
*Beijing Society of Portal Hypertension, Beijing Medical Association; Portal Hypertension Expert Committee, Liver Disease Committee of Chinese Research Hospital Association; Liver Disease Committee of Chinese Research Hospital Association*

Expert consensus on the diagnosis and treatment of acute – on – chronic liver failure with integrated traditional Chinese and Western medicine ..... (2045)  
*Chinese Association of Integrative Medicine*

Expert consensus on perioperative vascular complications for liver transplantation (2021) ..... (2054)  
*Perioperative Management Group, Chinese Society of Organ Transplantation, Chinese Medical Association*

Expert opinion on nutritional treatment for patients with biliary tract tumors ..... (2058)  
*Chinese Society of Nutritional Oncology, Chinese Society for Parenteral and Enteral Nutrition*

## Guideline Interpretation

Interpretation of Chinese expert consensus on the diagnosis and treatment of IgG4 – related diseases ..... (2062)  
*ZHOU Jiaxin, ZHANG Wen*

## Original articles

### Viral hepatitis

Value of aspartate aminotransferase – to – platelet ratio index, fibrosis –4, and gamma – glutamyl transpeptidase – to – platelet ratio in diagnosis of liver inflammation grade in patients with chronic hepatitis B ..... (2066)  
*ZHOU Xinlan, MA Xin, WANG Yanbing, et al*

Value of lymphocyte subset testing in predicting HBsAg decline in chronic hepatitis B patients receiving antiviral therapy ..... (2071)  
*PENG Zhen, JIN Huiming, NING Huibin, et al*

Efficacy of antiviral therapy for chronic hepatitis B with nonalcoholic fatty liver disease ..... (2075)  
*QING Ling, HUANG Weiqiang, LI Xiaohe, et al*

### Liver fibrosis and liver cirrhosis

Value of prothrombin time – international normalized ratio to albumin ratio in predicting the prognosis of patients with decompensated cirrhosis ..... (2081)  
*MENG Shuhui, XU Ying, ZOU Songlong, et al*

Risk factors for early rebleeding after endoscopic therapy for esophageal varices in cirrhotic patients ..... (2087)  
*ZHANG Yan, DING Huiguo*

Influencing factors of rebleeding after gastroscopy in patients with liver cirrhosis and esophagogastric variceal bleeding ..... (2092)  
*LIAN Jia, HAN Tao, XIANG Huiling, et al*

Value of albumin – bilirubin score combined with neutrophil count and procalcitonin in ascites in predicting spontaneous bacterial peritonitis in patients with cirrhotic ascites ..... (2097)  
*JIANG Ping, DOU Rencheng, CUI Zijin, et al*

Expression of NLRP3 inflammatory body in a rat model of liver fibrosis induced by common bile duct ligation ..... (2102)  
*ZHOU Meng'en, CHEN Yirong, ZHANG Na, et al*

### Liver neoplasms

Value of alpha – fetoprotein combined with gamma – glutamyl transpeptidase/aspartate aminotransferase ratio in diagnosis of HBV – associated hepatocellular carcinoma ..... (2109)  
*CAI Xin, CHEN Juanjuan, TANG Dongling, et al*

Establishment and predictive value of an early warning system for recurrence after radical resection of BCLC stage 0/A hepatocellular carcinoma ..... (2113)  
*LIU Sheng, TANG Haoyou, YANG Yang, et al*

Efficacy and safety of sequential lenvatinib therapy after stereotactic body radiotherapy in treatment of advanced primary liver cancer ..... (2120)  
*JI Xiaquan, ZHANG Aimin, ZHANG Tao, et al*

A cost – effect analysis of transarterial chemoembolization with CalliSpheres beads loaded with arsenic trioxide versus arsenic trioxide iodized oil emulsion in treatment of unresectable liver cancer ..... (2125)  
*WANG Wenhui, DUAN Xuhua, LI Hao, et al*

Application of liver three – dimensional visualized reconstruction technique in hepatectomy for children with complicated hepatoblastoma ..... (2130)  
*ZHAO Di, YE Jindong, LI Huali, et al*

Mechanism of “Szechwan Chinaberry Fruit – Rhizoma Corydalis” drug combination in treatment of liver cancer based on network pharmacology ..... (2136)  
*ZHANG Tian, JIA Sijing, SUN Dongxue, et al*

### Other liver diseases

Correlation of serum alanine aminotransferase, aspartate aminotransferase, gamma – glutamyl transpeptidase, and alkaline phosphatase with blood pressure in patients with nonalcoholic fatty liver disease in coastal regions of Shandong Province in China ..... (2144)  
*LIU Yijing, ZHAO Zhenzhen, LIU Shousheng, et al*

Clinical features of patients with acute – on – chronic liver failure and bacterial infection and influencing factors for prognosis ..... (2148)  
*LIU Xiaoyan, HU Jinhua, LI Chen, et al*

Postoperative complications of ex vivo liver resection combined with autologous liver transplantation in treatment of advanced hepatic alveolar echinococcosis at high altitude and related prevention and treatment strategies ..... (2153)  
*TIAN Qingshan, FENG Shaopei, GUO Yamin, et al*

Establishment of the reference intervals of four biochemical parameters for liver function among adults in Changchun, China based on the indirect method ..... (2161)  
*WANG Yiting, LI Xuewen, XING Dongyang, et al*

Practice and thinking on constructing a scientific research system for regional liver pathology center under the concept of collaborative innovation ..... (2167)  
*TANG Hong, ZHU Yingwei, LU Zhonghua*

### **Biliary disease**

Effects of FGB gene polymorphism on fibrinogen level and gallstones incidence in Xinjiang, China ..... (2171)  
*ALIYEGULI Aipire, PIERDIWASI Maimaitiyusufu, WANG Jian, et al*

### **Case reports**

Treatment of refractory hepatic hydrothorax by intrapleural injection of lauromacrogol: A case report ..... (2177)  
*LI Changzhou, LI Jianhui, HAO Xin, et al*

Primary hepatic carcinosarcoma with hepatocellular carcinoma: A case report ..... (2180)  
*LI Ri, GUO Huaibin, LIANG Ze, et al*

A case of type 2 diabetes with glycogenic hepatopathy ..... (2183)  
*MA Renshu, WU Tong, YU Ge, et al*

A case of Alagille syndrome ..... (2185)  
*TANG Shan, BAI Li, SONG Wenyan, et al*

Living – related donor liver transplantation for pediatric patients with Caroli disease: A case report ..... (2188)  
*ZHAO Yuxiang, JIA Lei, LI Haiyang*

### **Reviews**

Research advances in hepatitis B virus and ubiquitination of related proteins ..... (2191)  
*TU Wenhui, LIU Jin, ZHU Chuanwu*

Research advances in monomers of Chinese herbs in treatment of liver fibrosis by regulating oxidative stress ..... (2198)  
*ZHOU Zhiwen, LI Shan, LIU Xianghua, et al*

Association between YKL – 40 and liver fibrosis ..... (2203)  
*SHI Jiawei, HUANG Jing*

Application of metagenomic next – generation sequencing in sepsis in liver cirrhosis ..... (2206)  
*BEI Xiaoge, CHEN Jinjun, LI Beiling*

Role of N6 – methyladenosine in the development and progression of hepatocellular carcinoma ..... (2210)  
*MA Ke, ZHAO Lijin*

Research advances in extrahepatic diseases associated with nonalcoholic fatty liver disease ..... (2215)  
*ZHU Luying, LI Yuchen, DENG Lihua, et al*

Research advances in autophagy – related signal molecules in nonalcoholic fatty liver disease ..... (2220)  
*HE Jingxia, AN Xiuqin, LIU Jinchun*

Association of circadian rhythm and related genes with nonalcoholic fatty liver disease ..... (2225)  
*ZHAO Chenlu, ZHAO Wenxia*

Role of intestinal flora in metabolic – associated fatty liver disease ..... (2231)  
*YANG Lidan, HE He, AN Zhenmei*

Research advances in the association between activating transcription factor 3 and chronic liver diseases ..... (2236)  
*GU Qunli, LI Hui, DENG Xiuxiu, et al*

Role of miRNA in the development and progression of cholangiocarcinoma ..... (2241)  
*CHEN Sheng, CHEN Guoxiang, HE Zhongming, et al*

New advances in the treatment of pancreatic cancer by targeting tumor microenvironment ..... (2246)  
*ZHANG Feiyu, ADILA Yakepu, ZHAO Jinming, et al*