

中华人民共和国国家卫生和计划生育委员会主管

ISSN 1673-4092
CN 11-5394/R

国际病毒学杂志

GUOJI BINGDUXUE ZAZHI

2016 年 10 月 第 23 卷 第 5 期

原刊名：国外医学病毒学分册

中华医学会系列杂志 JOURNAL OF THE CHINESE MEDICAL ASSOCIATION

International Journal of
Virology

Volume 23 Number 5

October 2016



中华医学会
CHINESE
MEDICAL
ASSOCIATION

ISSN 1673-4092



万方数据

国际病毒学杂志

INTERNATIONAL JOURNAL OF VIROLOGY

双月刊 1994 年创刊 第 23 卷 第 5 期 2016 年 10 月 25 日出版

主 管

中华人民共和国
国家卫生和计划生育委员会

主 办

中华医学会
100710, 北京市东四西大街 42 号
北京市疾病预防控制中心
100013, 北京市和平里中街 16 号

编 辑

国际病毒学杂志编辑委员会
100013, 北京市东城区和平里中街 16 号
电话(传真):(010)64407285
Email: gjbxzz@126.com

总编辑

贺雄

出 版

《中华医学杂志》社有限责任公司
100710, 北京市东四西大街 42 号
电话(传真):(010)85158180
Email: office@cma.org.cn

广告经营许可证

京东工商广字第 8003 号

印 刷

北京荣泰印刷有限公司

发 行

廊坊市邮政局

订 购

全国各地邮政局
邮发代号: 18-223

邮 购

中华医学会杂志社市场营销部
100010, 北京东四邮局 100010-58 信箱
电话: (010)85158299, 85158339
Email: info@cma.org.cn

定 价

每期 10.0 元, 全年 60 元

中国标准连续出版物号

ISSN 1673-4092
CN 11-5394/R

2016 年版权归中华医学会所有

未经授权, 不得转载、摘编本刊文章, 不得使用本刊的版式设计

除非特别声明, 本刊刊出的所有文章不代表中华医学会和本刊编委会的观点

本刊如有印装质量问题, 可向中华医学会杂志社市场营销部调换

目 次

论 著

- 中国北方首例输入性寨卡病毒病病例的流行病学调查 289
郑阳 陈艳伟 窦相峰 黎新宇 孙玉兰 陈丽娟 王全意
- 2014-2015 年河北省 5 岁以下婴幼儿病毒性腹泻病原学
监测及流行特征分析 291
于秋丽 刘莹莹 苏通 赵文娜 谢赞 齐顺祥
- 2014-2015 年天津市主动求询者 HIV 感染状况及
影响因素分析 297
柏建芸 周宁 董笑月
- 四川省 2007-2014 年急性弛缓性麻痹病例中
埃可病毒 6 型的基因特征分析 300
陈娜 马小珍 童文彬 李伟 余倩
- 一起人感染 H7N9 禽流感家庭聚集性疫情的
流行病学调查分析 304
张莉 齐顺祥 宁远林 吴双胜 彭晓旻 潘阳 王全意 刘晓青 师鉴 杨鹏
- 北京市 2010-2015 年病毒性肝炎流行特征分析 308
高建华 苏宁 黄若刚
- 2012-2015 年北京市大兴区手足口病时空聚集性分析 311
李欣欣 侯文平 米卓 吴波峰 刘海博
- 2014 年北京市某校连续三起诺如病毒疫情调查分析 314
刘园 张海艳 孙冰洁 郭建新 黄辉 刘白薇 李锡太 高志勇 贾蕾
- 乙肝病毒 DNA 和病毒标志物检测在出入境
检疫人群中的应用 318
史玲莉 李云 闫冀焕 李薇 罗明 华娜
- 北京市东城区 2014 年度流感样病例病原学检测结果分析 ... 321
刘英霞 李姗姗 刘耀 吴垠 王超 李玉梅 王峥 吴伟 潘京海
- 淮安市经异性传播的 HIV 感染者中 HIV-1 病毒
基因亚型特征分析 323
范炜 燕清丽
- 多重 PCR 结合核酸侵入反应及纳米金显色技术
检测呼吸道病原体 326
樊欢 戚宇华 朱政 葛以跃 崔仑标 吴涛 史智扬
- 乙肝病毒感染与弥漫大 B 细胞淋巴瘤关联研究 332
王琦侠 李建英 倪庆仁 戴进前 郭亮 闫永平
- 艾滋病患者合并分枝杆菌感染及其耐药性分析 336
唐柳生 蒙志好 陈敬捷 廖光付

血液灌流治疗重症手足口病患儿的临床应用	339
蔡凯乾 段武琼 罗明海	
综述	
人冠状病毒核酸检测方法的研究进展	343
牛培华 王延群 谭文杰	
CRISPR/Cas9 基因编辑技术在病毒领域的研究进展	349
高敏 岳路路 闫滨	
隐匿性乙型肝炎病毒感染的研究进展	353
傅晓春 欧启水	
炎症性肠病合并巨细胞病毒感染的研究进展	358
黄英 杨雪松	

《国际病毒学杂志》编委会名单

总 编 辑	贺 雄(北京)	
副总编辑	王全意(常务、北京) 舒跃龙(北京)	
	黄爱龙(重庆)	牛俊奇(吉林)
编辑委员	(以下按姓氏笔画排序)	
	曹广文(上海)	陈丽娟(北京) 陈 晓(新疆)
	陈晓蓉(上海)	陈恩富(浙江) 程书权(广西)
	次仁顿珠(西藏)	崔仑标(江苏) 杜 鹃(北京)
	范 骏(浙江)	高 福(北京) 胡志红(湖北)
	何雅青(广东)	金玉怀(河北) 栾荣生(四川)
	李太生(北京)	李 琦(河北) 刘地发(江苏)
	刘清泉(北京)	刘水平(湖南) 刘晓青(江西)
	陆家海(广东)	卢亦愚(浙江) 牛志宏(山东)
	邱源旺(江苏)	祁 贤(江苏) 齐湘杰(山东)
	齐顺祥(河北)	钱 渊(北京) 宋宏彬(北京)
	田楨干(上海)	王豫林(重庆) 王世文(北京)
	王志玉(山东)	王显军(山东) 吴少慧(辽宁)
	闫永平(陕西)	汪照国(山东) 尹华发(安徽)
	杨雪松(北京)	余鹏博(陕西) 钟照华(黑龙江)
	张 军(福建)	张海林(云南) 张 济(山东)
	张严峻(浙江)	曾大军(北京) 赵国强(河南)
外籍编委	Raina MacIntyre(澳大利亚) Yan Li(加拿大)	
	James P.Tam(新加坡)	Peng Tian(美国)

责任编辑 李秋生 英文编辑 林长缨

INTERNATIONAL JOURNAL OF VIROLOGY

Bimonthly Established in 1984 Volume 23, Number 5 Oct. 25, 2016

Responsible Institution

National Health and Family
Planning Commission of the
People's Republic of China

Sponsor

Chinese Medical Association
42 Dongsì Xidajie Beijing 100710, China
Beijing Center for Disease Prevention
and Control
No. 16 Hepingli Middle St, Dongcheng District,
Beijing 100013

Editing

Editorial Committee of
International Journal of Virology
16 Hepingli Zhongjie, Dongcheng District,
Beijing 100013, China
Tel (Fax): 0086-10-64407285
Email: gjbdxzz@126.com

Editor in Chief

HE Xiong(贺雄)

Publishing

Chinese Medical Journals
Publishing House Co., Ltd.
42 Dongsì Xidajie, Beijing 100710, China
Tel(Fax): 0086-10-85158180
Email: office@cma.org.cn

Printing

Printing House of Beijing Beiyi
Investment Management Co. Ltd.

Distributor

Langfang Post Office

Mail Ordering

Local Post Offices
Post distribution code: 18-223

Mail-Order

Marketing Department,
Publishing House,
Chinese Medical Association
Beijing 100010 China
Tel: 0086-10-85158299, 85158339
Email: info@cma.org.cn

CSSN

ISSN 1673-4092
CN 11-5394/R

Copyright©2016 by the
Chinese Medical Association

No content published by the journals of
Chinese Medical Association may be repro-
duced or albridged without authorization.
Please do not use or copy the layout and des-
ign of the journals without permission.

All articles published represent the opinions
of the authors; and do not reflect the official
policy of the Chinese Medical Association or
the Editorial Board, unless this is clearly
specified.

Table of Contents

Original Articles

- Survey of the first confirmed imported case of Zika virus in Northern China ... 289**
*ZHENG Yang, CHEN Yan-wei, DOU Xiang-feng, LI Xin-yu, SUN Yu-lan,
CHEN Li-juan, WANG Quan-yi*
- Analysis on surveillance and epidemiological characteristics of
viral diarrheal disease among children under five years old
in Hebei Province, 2014-2015 291**
YU Qiu-li, LIU Ying-ying, SU Tong, ZHAO Wen-na, XIE Yun, QI Shun-xiang
- An analysis on HIV infection status and its influencing factor among
voluntary counseling and testing clients in Tianjin during 2014-2015 297**
BAI Jian-yun, ZHOU Ning, DONG Xiao-yue
- Genetic characteristics of echovirus 6 isolated from acute flaccid paralysis
cases in Sichuan province, 2007-2014 300**
CHEN Na, MA Xiao-zhen, TONG Wen-bin, LI Wei, YU Qian
- Epidemiological analysis on a family clustered cases of human infection
with avian influenza A(H7N9) virus 304**
*ZHANG Li, QI Shun-xiang, NING Yuan-lin, WU Shuang-sheng, PENG Xiao-min,
PAN Yang, WANG Quan-yi, LIU Xiao-qing, SHI Jian, YANG Peng*
- Epidemiological analysis of viral hepatitis in Beijing from 2010 to 2015 308**
GAO Jian-hua, SU Ning, HUANG Ruo-gang
- Temporal and spatial clustering characteristic of hand-foot-mouth disease
in Daxing, 2012-2015 311**
LI Xin-xin, HOU Wen-ping, MI Zhuo, WU Bo-feng, LIU Hai-bo
- Investigation and analysis on 3 norovirus outbreaks in a primary school
in Beijing, 2014 314**
*LIU Yuan, ZHANG Hai-yan, SUN Bing-jie, GUO Jian-xin, HUANG Hui, LIU Bai-wei,
LI Xi-tai, GAO Zhi-yong, JIA Lei*
- Application of hepatitis B viral DNA and serum markers detections
in the entry-exit quarantined population 318**
SHI Ling-li, LI Yun, YAN Ji-huan, LI Wei, LUO Ming, HUA Na
- Pathogenic analysis of the influenza virus in Dongcheng district of
Beijing, 2014 321**
*LIU Ying-xia, LI Shan-shan, LIU Yao, WU Yin, WANG Chao, LI Yu-mei,
WANG Zheng, WU Wei, PAN Jing-hai*
- Genetic characterization of HIV-1 subtypes from the reported heterosexual
transmitted cases in Huai'an 323**
FAN Wei, YAN Qing-li

Application of multiplex PCR combined with invasive reaction and chromogenic reaction catalyzed
by gold nanoparticles in detection of respiratory tract infection pathogens 326
FAN Huan, QI Yu-hua, ZHU Zheng, GE Yi-yue, CUI Lun-biao, SHI Zhi-yang
Correlation study of hepatitis B virus infection and diffuse large B-cell lymphoma 332
WANG Qi-xia, LI Jian-ying, NI Qing-ren, DAI Jin-qian, GUO Liang, YAN Yong-ping
To investigate the distribution and drug resistance of mycobacterium infection in AIDS patients 336
TANG Liu-sheng, MENG Zhi-hao, CHENG Jing-jie, LIAO Guang-fu
Clinical effects of hemoperfusion in children with severe hand-foot-mouth disease 339
CAI Kai-qian, DUAN Wu-qiong, LUO Ming-hai

Review Articles

Research progress on nuclear acid detection assays for human coronavirus 343
NIU Pei-hua, WANG Yan-qun, TAN Wen-jie
Research Progress of CRISPR/Cas9 gene editing technology in the field of virus 349
GAO Min, YUE Lu-lu, YAN Bin
Research progress of occult hepatitis B virus infection 353
FU Xiao-chun, OU Qi-shui
Research progress in inflammatory bowel disease with cytomegalovirus infection 358
HUANG Ying, YANG Xue-song

- litis patients[J]. *Am J Gastroenterol*, 2007, 102(2): 331 – 337.
- [10] Isern E, Gustems M, Messerle M, et al. The activator protein 1 binding motifs within the human cytomegalovirus major immediate – early enhancer are functionally redundant and act in a cooperative manner with the NF – kappa B sites during acute infection [J]. *J Virol*, 2011, 85 (4): 1732 – 1746.
- [11] Onyeagocha C, Hossain MS, Kumar A, et al. Latent cytomegalovirus infection exacerbates experimental colitis[J]. *Am J Pathol*, 2009, 175(5): 2034 – 2042.
- [12] Hommes DW, Sterringa G, van Deventer SJ, et al. The pathogenicity of cytomegalovirus in inflammatory bowel disease: a systematic review and evidence – based recommendations for future research[J]. *Inflamm Bowel Dis*, 2004, 10(3): 245 – 250.
- [13] Suzuki H, Kato J, Kuriyama M, et al. Specific endoscopic features of ulcerative colitis complicated by cytomegalovirus infection [J]. *World J Gastroenterol*, 2010, 16(10): 1245 – 1251.
- [14] Hussein K, Hayek T, Yassin K, et al. Acute cytomegalovirus infection associated with the onset of inflammatory bowel disease [J]. *Am J Med Sci*, 2006, 331(1): 40 – 43.
- [15] Adani GL, Avital I, Ferrareso C, et al. CMV infection in severe refractory ulcerative and Crohn's colitis[J]. *Am J Gastroenterol*, 2001, 96(12): 3464 – 3465.
- [16] Yoshino T, Nakase H, Ueno S, et al. Usefulness of quantitative real-time PCR assay for early detection of cytomegalovirus infection in patients with ulcerative colitis refractory to immunosuppressive therapies [J]. *Inflamm Bowel Dis*, 2007, 13 (12): 1516 – 1521.
- [17] Rahier JF, Ben – Horin S, Chowers Y, et al. European evidence – based Consensus on the prevention, diagnosis and management of opportunistic infections in inflammatory bowel disease [J]. *J Crohns Colitis*, 2009, 3(2): 47 – 91.
- [18] Wada Y, Matsui T, Mataka H, et al. Intractable ulcerative colitis caused by cytomegalovirus infection; a prospective study on prevalence, diagnosis, and treatment [J]. *Dis Colon Rectum*, 2003, 46(10): S59 – S65.
- [19] Kim YS, Kim YH, Kim JS, et al. The prevalence and efficacy of ganciclovir on steroid – refractory ulcerative colitis with cytomegalovirus infection: a prospective multicenter study[J]. *J Clin Gastroenterol*, 2012, 46(1): 51 – 56.
- [20] Matsuoka K, Iwao Y, Mori T, et al. Cytomegalovirus is frequently reactivated and disappears without antiviral agents in ulcerative colitis patients[J]. *Am J Gastroenterol*, 2007, 102(2): 331 – 337.
- [21] Criscuoli V, Casa'A, Orlando A, et al. Severe acute colitis associated with CMV: a prevalence study[J]. *Dig Liver Dis*, 2004, 36(12): 818 – 820.
- [22] Roblin X, Pillet S, Oussalah A, et al. Cytomegalovirus load in inflamed intestinal tissue is predictive of resistance to immunosuppressive therapy in ulcerative colitis [J]. *Am J Gastroenterol*, 2011, 106(11): 2001 – 2008.
- [23] Kim YS, Kim YH, Kim JS, et al. Cytomegalovirus infection in patients with new onset ulcerative colitis: a prospective study [J]. *Hepatogastroenterology*, 2012, 59(116): 1098 – 1101.
- [24] Uri Kopylov, Gila Sasson, Bella Geyshis, et al. Cytomegalovirus positive ulcerative colitis: A single center experience and literature review [J]. *World J Gastrointest Pathophysiol*, 2013, 4 (1): 18 – 23.
- [25] D' Ovidio V, Vernia P, Gentile G, et al. Cytomegalovirus infection in inflammatory bowel disease patients undergoing anti – TNF α therapy[J]. *J Clin Virol*, 2008, 43(2): 180 – 183.
- [26] Pillet S, Pozzetto B, Jarlot C, et al. Management of cytomegalovirus infection in inflammatory bowel diseases[J]. *Dig Liver Dis*, 2012, 44(7): 541 – 548.
- [27] Dignass A, Akbar A, Hart A, et al. Safety and Efficacy of Granulocyte/Monocyte Apheresis in Steroid – Dependent Active Ulcerative Colitis with Insufficient Response or Intolerance to Immunosuppressants and/or Biologics [the ART Trial]: 12 – week Interim Results[J]. *J Crohns Colitis*, 2016, 10(7): 812 – 820.
- [28] Fukuchi T, Nakase H, Matsuura M, et al. Effect of intensive granulocyte and monocyte adsorptive apheresis in patients with ulcerative colitis positive for cytomegalovirus[J]. *J Crohns Colitis*, 2013, 7(10): 803 – 811.
- [29] Yoshino T, Nakase H, Matsuura M, et al. Effect and safety of granulocyte – monocyte adsorption apheresis for patients with ulcerative colitis positive for cytomegalovirus in comparison with immunosuppressants[J]. *Digestion*, 2011, 84(1): 3 – 9.
- [30] Saniabadi AR, Tanaka T, Ohmori T, et al. Treating inflammatory bowel disease by adsorptive leucocytapheresis: A desire to treat without drugs[J]. *World J Gastroenterol*, 2014, 20(29): 9699 – 9715.

(收稿日期:2016 – 06 – 29)

(本文编辑:田丽丽)