

中国医学影像技术

ZHONGGUO YIXUE YINGXIANG JISHU

月刊 1985年创刊 第38卷 第7期 2022年7月20日出版

主管 中国科学院

主办 中国科学院声学研究所

名誉主编

刘玉清 唐孝威 王威琪

主编 李坤成 李建初

副主编

陈 涛 冯 逢 何 文

李亚明 任卫东 孙应实

田家玮 王培军 王小民

王振常 吴青青 伍建林

谢明星 余永强 郑海荣

社 长 郑春见

总编辑 王艳萍

编辑出版

《中国医学影像技术》期刊社
有限公司

印 刷 北京科信印刷有限公司

发 行

国内:中国邮政集团公司

北京市报刊发行局

国外:中国国际图书贸易集团
有限公司

北京 399 信箱,100048

代号:M1344

订 购

全国各地邮局

邮发代号 82-509

邮 购

100190 北京市海淀区北四环

西路 21 号大猷楼 502 室

电话、传真:(86-10)82547903

定 价

每册 26 元 全年 312 元

中国标准连续出版物号

ISSN 1003-3289
CN 11-1881/R

广告发布登记

京海市监广登字 20200042 号

网 址 www.cjmit.com

E-mail cjmit@mail.ioa.ac.cn

2022 年版权归《中国医学影像技术》
期刊社有限公司所有

目 次

实验研究

制备纳米粒联合高强度聚焦超声治疗三阴性乳腺癌:体外实验

..... 康正樾,冯潇铃,廖洪建,张志飞,杜永洪(961)

载单宁酸铁及二氢卟吩纳米粒用于光声成像及杀伤视网膜母细胞瘤 Y79 细胞

..... 黄通,王志刚,杜之渝(968)

静息态功能 MRI 观察血管性痴呆大鼠模型全脑局部一致性 贺欢,丁文才(975)

中枢神经影像学

静息态功能 MRI 观察原发性甲状腺功能减退症患者脑局部一致性及其意义

..... 韩亚兰,黄刚,田利民,秦瑞,曹剑仓,梁丰丽,赵莲萍(979)

多序列 MRI 评估复发缓解型多发性硬化患者大脑皮层厚度改变

..... 严子淳,陈晓娅,曾春,郑桥,史卓伟,李咏梅(984)

¹⁸F-FDG PET/CT 评估帕金森综合征脑葡萄糖代谢并鉴别其类型

..... 宋天彬,高珂梦,苏玉盛,李则,帅冬梅,李天女,唐立钧,张春,卢洁(989)

头颈部影像学

CT 及 MR 血管造影图像融合评估原发性三叉神经痛患者三叉神经入脑干区血管、

神经及骨性结构的关系 徐嘉,季达峰,吕广明(995)

心脏、血管影像学

CT 观察儿童外周中心静脉导管头端最佳位置

..... 韦捷,周怡睿,王龙伦,蔡金华(1000)

三维能量多普勒超声评估治疗婴幼儿血管瘤效果

..... 谭山川,尹书月,张晋炜,汪朝霞,周德凯,高惠,陈露,温洁馨(1004)

三维斑点追踪成像(3D-STE)定量评价容量负荷改变后左心室整体应变情况

..... 蒋海波,王韦,奚佳颖,汤佳美,陈恺蓓,王凌霄,金修才,沈若宇(1008)

胸部影像学

肺超声评分评估新生儿呼吸窘迫综合征

..... 薛静,张周龙,陈胜江,吕海霞,孙继锋(1013)

CT 影像组学列线图评估肺腺癌脏层胸膜侵犯

..... 杨昭,王小雷,李淑华,张群芳,张雪丽,李阳,李伟,王效静,刘浩,谢宗玉(1017)

对比增强能谱乳腺 X 线摄影量化参数联合强化特点鉴别乳腺良、恶性肿块

..... 徐维敏,郑博文,秦耿耿,文婵娟,汪思娜,徐泽园,吴杰芳,陈卫国(1023)

腹部影像学

T2WI、DWI 及 ADC 图多序列影像组学模型评估直肠癌淋巴结转移

..... 肖奕,蒋昭琰,何舒欣,胡斯娴,文大光,张雨,李真林,夏春潮(1029)

CT 影像组学预测结直肠癌肝转移术后患者 1 年内无进展生存期

..... 邢倩,谷小磊,朱海涛,李晓婷,崔湧,孙应实(1035)

妇产科影像学

妊娠中晚期胎儿颅后窝生长发育规律

..... 路 涛, 张 凤, 吴成倩, 刘 霞, 李自军, 柴 丽, 杜雨桔, 罗 强, 李绚绮(1041)

3.0T MRI 评估妊娠中晚期胎儿眼球发育 鹿彩銮, 路 莉, 徐 杰, 时 林, 郁艳美(1045)

生殖泌尿影像学

联合临床、MR T2WI 及表观弥散系数图影像组学特征列线图预测初发前列腺癌骨转移

..... 姬健智, 张 倩, 牛 猛, 郭顺林, 翟亚楠(1050)

骨骼肌肉影像学

MR 体素内不相干运动弥散加权成像及 T2 mapping 评估腰椎间盘退行性变

..... 马春郁, 姚红艳, 陈晓飞, 祁艳梅, 董馥闻, 贾润慧, 周 晟(1056)

手部局限性腱鞘巨细胞瘤常规超声特征 李云华, 金利芳, 刘 龙, 史秋生, 吴 蓉, 杜联芳(1062)

膝关节术后粘连 MRI 表现及临床特点 高丽香, 刘 颖, 孙兴文, 袁慧书(1066)

医学物理与工程学

融合中华-05 注意力与叠加纹理构建残差网络智能模型评估骨龄 郭子昇, 王吉芳, 沈孝龙, 苏 鹏(1070)

影像技术学

模板引导初学医师穿刺植入¹²⁵I 粒子用于模拟颅内肿瘤

..... 张宏涛, 周秋妹, 杨华清, 杨 鑫, 王香玉, 隋爱霞, 胡效坤, 王 娟(1077)

对比单次屏气与两次屏气法减影冠状动脉 CT 血管造影评估严重钙化冠状动脉狭窄

..... 王俊人, 孙 玉, 李晓岗, 邹明宇, 杨本强(1081)

综述

分子影像学用于早期诊断乳腺癌及其分子分型进展 冯 源, 兰晓莉, 张永学(1086)

T1 mapping 技术用于心脏疾病危险分层及预后评估研究进展 刘 茜, 王 珍, 孙应实(1090)

心脏 MRI 观察法布里病累及心脏研究进展 徐杨飞, 杨 凯, 赵世华(1094)

碲锌镉 SPECT 用于冠心病研究进展 李彩红, 李万婷, 刘海燕(1098)

经验交流

炎性假瘤样滤泡树突状细胞肉瘤临床及超声表现 陈桂武, 谢玉环, 刘文芹, 廖晓敏, 黄 彦, 何志忠(1103)

个案报道

足底皮肤鳞状细胞癌 1 例 刘玉建, 李 媛, 仲健全, 吕敏丽(1022)

超声造影引导活检诊断膀胱鳞状细胞癌 1 例 胡启生, 付 帅, 王淑敏(1034)

原发性二尖瓣后叶瘤伴感染性心内膜炎并穿孔 1 例 潘绍卿, 丁明岩, 孙丹丹, 郭丽娟, 肖明明, 朱 芳(1069)

腋窝透明血管型卡斯尔曼病超声表现 1 例 于 媛, 赵荣梅, 李 丽(1102)

儿童脑室内中枢神经细胞瘤 1 例 谢英杰, 陈 静, 王春祥(1106)

产前超声心动图诊断胎儿复杂先天性心脏病 1 例 徐 星, 胡雪飞, 袁红霞, 周启昌, 许崇惠, 郭黎漓, 田蕾琪(1107)

甲状腺肉瘤常规超声及超声造影表现 1 例 严 浩, 杨光旭, 吴作辉(1109)

增强 CT 诊断肝移植术后下腔静脉巨大血栓 1 例 李 景, 周汝明, 李 宁, 陈英敏(1111)

核医学多模态显像诊断神经母细胞性肿瘤合并坐骨骨折 1 例 司宇坤, 李翠翠, 冯莉娟, 杨吉刚(1112)

胃肉瘤样癌伴神经内分泌分化 1 例 王 倩, 徐俊霞, 王敏哲, 郭 城, 雷军强(1114)

咽旁间隙胚胎性横纹肌肉瘤 1 例 戴鑫雨, 赵志莲, 王 瑩, 卢 洁(1115)

泪腺淋巴上皮癌 MRI 表现 1 例 殷 成, 周 涛, 马雯雯, 管 玥, 王燕鸣, 王锡臻(1116)

基于 MRI 感兴趣容积技术诊断并随访长收肌延迟性肌肉酸痛 1 例 杨献峰, 袁 鹏(1117)

产前超声诊断短肋多指综合征 1 胎 王璐琳, 李天刚, 苏晓荣, 魏传敏(1118)

¹³¹I 治疗后甲状腺移植区假阳性摄取 1 例 贺 嵩, 谢来平, 黄定德, 厉红民(1119)

本期执行主编 吴青青

本期执行编委 闫清淳 陈路增

本期责任编辑 冯 洁 本期校对 徐 悅

CHINESE JOURNAL OF MEDICAL IMAGING TECHNOLOGY

Monthly Established in 1985

Vol 38, No 7 Jul 20, 2022

Responsible Institution

Chinese Academy of Sciences

Sponsor

Institute of Acoustics,
Chinese Academy of Sciences

Honorary Editor

LIU Yuqing TANG Xiaowei
WANG Weiqi

Editor-in-Chief

LI Kuncheng LI Jianchu

Associate Editor

CHEN Tao FENG Feng HE Wen
LI Yaming REN Weidong
SUN Yingshi TIAN Jiawei
WANG Peijun WANG Xiaomin
WANG Zhenchang WU Qingning
WU Jianlin XIE Mingxing
YU Yongqiang ZHENG Hairong

President

ZHENG Chunjian

Chief Editor

WANG Yanping

Editing and Publishing

Press of Chinese Journal of Medical
Imaging Technology Co., Ltd

Printing

Beijing Kexin Printing Co., Ltd

Overseas Distributor

China International Book Trading
Corporation
P. O. Box 399, Beijing 100048, China
Code No. M1344

Mail Order

Room 502, Da-you Building,
No. 21, North 4th Ring West Road,
Haidian District, Beijing 100190, China
Tel, Fax: (86-10)82547903

Price (Foreign)

USD \$ 26. 00

CSSN ISSN 1003-3289
CN 11-1881/R

Website www.cjmit.com

E-mail cjmit@mail.ioa.ac.cn

Copyright©2022 by the Press of
Chinese Journal of Medical Imaging
Technology Co., Ltd

Contents in Brief

Experimental Study

Preparation of nanoparticle combining with high intensity focused ultrasound for treating three negative breast cancer: *In vitro* experiment (961)
KANG Zhengyue, FENG Xiaoling, LIAO Hongjian, ZHANG Zhifei, DU Yonghong

Fe^{III}-tannic acid and chlorin e6 loaded nanoparticle for photoacoustic imaging and killing retinoblastoma Y79 cells (968)
HUANG Tong, WANG Zhigang, DU Zhiyu

Resting-state functional MRI observation on regional homogeneity of whole brain in rat models of vascular dementia (975)
HE Huan, DING Wencai

Neuroimaging

Resting-state functional MRI for observation on cerebral regional homogeneity in primary hypothyroidism patients and its significances (979)
HAN Yalan, HUANG Gang, TIAN Limin, QIN Rui, CAO Jiancang, LIANG Fengli, ZHAO Lianping

Multi-sequence MRI evaluation on changes of cerebral cortical thickness in patients with relapsing-remitting multiple sclerosis (984)
YAN Zichun, CHEN Xiaoya, ZENG Chun, ZHENG Qiao, SHI Zhuowei, LI Yongmei

¹⁸F-FDG PET/CT for evaluating cerebral glucose metabolism and differentiating types of Parkinsonism (989)
SONG Tianbin, GAO Kemeng, SU Yusheng, LI Ze, SHUAI Dongmei, LI Tiannya, TANG Lijun, ZHANG Chun, LU Jie

Head and Neck Imaging

CT and MR angiography image fusion for evaluating relationships of vascular, nerve and bony structures of trigeminal nerve root entry zone in patients with primary trigeminal neuralgia (995)
XU Jia, JI Dafeng, LYU Guangming

Heart and Vascular Imaging

The best position of the head end of peripherally inserted central venous catheter in children:
CT study (1000)
WEI Jie, ZHOU Yirui, WANG Longlun, CAI Jinhuai

Three-dimensional power Doppler ultrasound for evaluation on therapeutic effect of infantile hemangioma (1004)
TAN Shanchuan, YIN Shuyue, ZHANG Jinwei, WANG Zhaoxia, ZHOU Dekai, GAO Hui, CHEN Lu, WEN Jiexin

Three-dimension speckle tracking echocardiography (3D-STE) for quantitatively evaluating overall strain of left ventricular under changed volume load (1008)
JIANG Haibo, WANG Wei, XI Jiaying, TANG Jiamei, CHEN Kaipei, WANG Lingxiao, JIN Xiucui, SHEN Ruoyu

Chest Imaging

Pulmonary ultrasound score for evaluating neonatal respiratory distress syndrome (1013)
XUE Jing, ZHANG Zhoulong, CHEN Shengjiang, LYU Haixia, SUN Jifeng

CT radiomics nomogram for evaluating visceral pleural invasion of lung adenocarcinoma (1017)
YANG Zhao, WANG Xiaolei, LI Shuhua, ZHANG Qunfang, ZHANG Xueli, LI Yang, LI Wei, WANG Xiaojing, LIU Hao, XIE Zongyu

Quantitative parameters combined with enhancement features of contrast-enhanced spectral mammography in distinguishing benign and malignant breast masses (1023)
XU Weimin, ZHENG Bowen, QIN Genggeng, WEN Chanjuan, WANG Sina, XU Zeyuan, WU Jiefang, CHEN Weiguo

Abdominal Imaging

T2WI, DWI and ADC map multi-sequence radiomics for evaluation on lymph node metastasis of rectal cancer (1029)
XIAO Yi, JIANG Zhaoyan, HE Shuxin, HU Sixian, WEN Daguang, ZHANG Yu, LI Zhenlin, XIA Chunchao

CT radiomics for predicting progression free survival within one year in patients with colorectal cancer liver metastases after surgical resection (1035)
XING Qian, GU Xiaolei, ZHU Haitao, LI Xiaoting, CUI Yong, SUN Yingshi

Obstetrical and Gynecological Imaging

Development of posterior cranial fossa of normal fetus in the second and third trimesters of pregnancy (1041)
LU Tao, ZHANG Feng, WU Chengqian, LIU Xia, LI Zijun, CHAI Li, DU Yuju, LUO Qiang, LI Xiangqi

3.0T MRI for evaluating fetal eyeball development in the second and the third trimester of pregnancy	(1045)
LU Cailuan, LU Li, XU Jie, SHI Lin, HUAN Yanmei	
Genitourinary Imaging	
Nomogram based on clinical, MR T2WI and apparent diffusion coefficient map radiomics features for predicting bone metastasis of incipient prostate cancer	(1050)
JI Jianzhi, ZHANG Qian, NIU Meng, GUO Shunlin, ZHAI Yanan	
Musculoskeletal Imaging	
MR intravoxel incoherent motion diffusion weighted imaging and T2 mapping for evaluating lumbar intervertebral disc degeneration	(1056)
MA Chunyu, YAO Hongyan, CHEN Xiaofei, QI Yanmei, DONG Fugen, JIA Runhui, ZHOU Sheng	
Conventional ultrasonic characteristics of localized giant cell tumors of tendon sheath in hand	(1062)
LI Yunhua, JIN Lifang, LIU Long, SHI Qiusheng, WU Rong, DU Lianfang	
MRI manifestations and clinical characteristics of postoperative knee joint adhesion	(1066)
GAO Lixiang, LIU Ying, SUN Xingwen, YUAN Huishu	
Imaging Physics and Engineering	
Residual network intelligent bone age assessment model established base on China-05 attention and overlay texture	(1070)
GUO Zisheng, WANG Jifang, SHEN Xiaolong, SU Peng	
Imaging Technology	
Template for guiding puncture by beginner during ^{125}I seeds implantation for simulated intracranial tumor	(1077)
ZHANG Hongtao, ZHOU Qiumei, YANG Huaqing, YANG Xin, WANG Xiangyu, SUI Aixia, HU Xiaokun, WANG Juan	
Comparison on single and two times breath-holding subtraction coronary CT angiography for evaluating severe calcified coronary artery stenosis	(1081)
WANG Junren, SUN Yu, LI Xiaogang, ZOU Mingyu, YANG Benqiang	
Reviews	
Progresses in molecular imaging for early diagnosis and molecular typing of breast cancer	(1086)
FENG Yuan, LAN Xiaoli, ZHANG Yongxue	
Research progresses of T1 mapping for risk stratification and evaluation on prognosis of cardiac diseases	(1090)
LIU Xi, WANG Zhen, SUN Yingshi	
Research progresses in Cardiac MRI for heart involvement of Fabry disease	(1094)
XU Yangfei, YANG Kai, ZHAO Shihua	
Research progresses of cadmium zinc telluride SPECT applied in coronary artery heart disease	(1098)
LI Caihong, LI Wanting, LIU Haiyan	
Clinical Experiences	
Clinical and ultrasonic findings of inflammatory pseudotumor-like follicular dendritic cell sarcoma	(1108)
CHEN Guiwu, XIE Yuhuan, LIU Wenqin, LIAO Xiaomin, HUANG Yan, HE Zhizhong	
Case Reports	
Plantar cutaneous squamous cell carcinoma: Case report	(1022)
LIU Yujian, LI Yuan, ZHONG Jianquan, LYU Minli	
Contrast enhanced ultrasound-guided biopsy of bladder squamous cell carcinoma: Case report	(1034)
HU Qisheng, FU Shuai, WANG Shumin	
Primary posterior mitral valve aneurysm complicated with infective endocarditis and perforation: Case report	(1069)
PAN Shaoging, DING Mingyan, SUN Dandan, GUO Lijuan, XIAO Mingming, ZHU Fang	
Ultrasonic manifestations of axillary hyaline vascular Castleman disease: Case report	(1102)
YU Yuan, ZHAO Rongmei, LI Li	
Intraventricular central neurocytoma in a child: Case report	(1106)
XIE Yingjie, CHEN Jing, WANG Chunxiang	
Prenatal echocardiographic diagnosis of fetal complex congenital heart disease: Case report	(1107)
XU Xing, HU Xuefei, YUAN Hongxia, ZHOU Qichang, XU Chonghui, GUO Lili, TIAN Leiqi	
Findings of conventional ultrasound and contrast-enhanced ultrasound of thyroid sarcoma: Case report	(1109)
YAN Jie, YANG Guangxu, WU Zuohui	
Enhanced CT diagnosis of giant inferior vena cava thrombosis after liver transplantation: Case report	(1111)
LI Jing, ZHOU Ruming, LI Ning, CHEN Yingmin	
Multimodality imaging of nuclear medicine for diagnosing neuroblast tumor combined with sciatic fracture: Case report	(1112)
SI Yukun, LI Cuicui, FENG Lijuan, YANG Jigang	
Gastric sarcomatoid carcinoma with neuroendocrine differentiation: Case report	(1114)
WANG Qian, XU Junxia, WANG Minze, GUO Cheng, LEI Junqiang	
Parapharyngeal space embryonal rhabdomyosarcoma: Case report	(1115)
DAI Xinyu, ZHAO Zhilian, WANG Wei, LU Jie	
MRI findings of lymphoepithelial carcinoma of lacrimal gland: Case report	(1116)
YIN Cheng, ZHOU Tao, MA Wenwen, GUAN Yue, WANG Yanning, WANG Xizhen	
Diagnosis and follow-up of delayed onset muscle soreness of adductor longus based on MRI volume of interest technique: Case report	(1117)
YANG Xianfeng, YUAN Peng	
Prenatal ultrasonic diagnosis of short rib-polydactyly syndrome: Case report	(1118)
WANG Ailin, LI Tiangang, SU Xiaorong, WEI Chuanmin	
False positive uptake of parathyroid transplantation area after ^{131}I treatment: Case report	(1119)
HE Song, XIE Laiping, HUANG Dingde, LI Hongmin	