	2004
112 11 116 7 1	2021
推荐奖种	医学科学技术奖
项目名称	多模态影像联合生物标志物指导的胸部肿瘤精准放疗策略应用
	推荐单位: 山东省医学会 w # \$ 5
	推荐意见:
	1.研究背景:放射治疗是包括肺癌、食管癌在内的胸部肿瘤重要的治疗手段,然
	而部分患者对放疗不敏感,而且放射治疗也可能造成一些不良反应如放射性肺损伤、 ************************************
	放射性免疫损伤等影响生活质量甚至生存。如何更好的预测疗效、减毒增效、实施
	│ 个体化治疗一直是临床难点,在国家和省重点项目等资助下,针对上述亟待解决的 │ 西本土主西问题展开研究
	两个大方面问题展开研究。 2. 项目成果:
	2. 项目风未。 疗效预测:该项目从肿瘤细胞、肿瘤组织微环境和机体的免疫状态三方面分析判断、
	预测疗效。利用 FGD PET 功能成像、CT 灌注成像等技术,通过对非小细胞肺癌和食
	管癌的原发灶影像组学信息的分析,获得肿瘤的糖代谢、微循环、增殖等信息,结
	自然的原及社影像组子自态的方面,
	相关分子机制进行了探讨,发现 Nrf2/ Keap1 途径在食管鳞癌、miR-208a/p21 通
推荐单位	路在非小细胞肺癌都与放射抵抗有关。
	減毒增效: 从靶区设计到放疗实施,在精准影像学诊断前提下开展肺癌和食管癌的
	累及野放射治疗,其次我们再进一步研究观察淋巴结转移的规律,将锁骨上淋巴结
	区进一步划分为亚区,观察不同亚区的转移概率,进而确定亚靶区,第三我们通过
	多种影像学精确确定食管癌的原发灶靶区范围,总之做到小而不漏。还基于联合代
	谢功能和解剖结构成像的四维 PET/CT 技术的呼吸运动分析、动态靶区勾画和放疗分
	次内累积剂量计算策略。
	3.项目意义:通过多模态影像组学开发、生物标志物的创新应用、纳米材料放射增
	→ ■ ■ ■ ■ ■ ■ ■ 世 本 世 は 大 は し は し に は し に に し に に に し に に に に に に に に に に に に に
	导个体化治疗的关键技术和治疗策略,取得了多项有重要影响力的学术成果,应用
	于临床可指导个体化治疗、提高生活质量。
	4.我单位认真审核项目填报各项内容,确保材料真实有效,经公示无异议,推荐其
	申报 2021 年中华医学科技奖。
项目简介	放射治疗是包括肺癌、食管癌在内的胸部肿瘤重要的治疗手段,然而部分患者对
	放疗不敏感并不能从放疗中生存获益,而且放射治疗也可能造成一些不良反应如放
	射性肺损伤、放射性免疫损伤等影响生活质量甚至生存。如何更好的预测疗效、减
	毒增效、实施个体化治疗一直是临床难点。
	该成果在国家和省重点项目等资助下,针对上述亟待解决的两个大方面问题展开研
	究:
	第一为疗效预测:我们认识到,肿瘤患者对放射治疗的敏感性和预后,不但与肿瘤
	细胞、肿瘤组织微环境有关,还与机体的免疫状态有关。于是我们从这三方面分析
	判断、预测疗效。我们利用 FGD PET 功能成像、CT 灌注成像等技术,通过对非小细
	胞肺癌和食管癌的原发灶影像组学信息的分析,获得肿瘤的糖代谢、微循环、增殖

等信息,结合肿瘤大小、部位等因素判断其对放射治疗的敏感性和预后。 我们还以外周血淋巴细胞作为反应机体免疫状态的生物标志物,结合其他血液学参数,发现淋巴细胞绝对值、NLR、LMR等参数都可在一定程度上预测食管癌和肺癌患者的放射敏感性并与预后有关。而且我们还对放射抵抗的相关分子机制进行了探讨,发现Nrf2/Keap1 途径在食管鳞癌、miR-208a/p21 通路在非小细胞肺癌都与放射抵抗有关。

第二是减毒增效问题:靶区设计是放射治疗的重要一环,靶区的大小、范围关系到肿瘤患者的局控、生存和生活质量。首先,我们从靶区设计的理念出发,在精准影像学诊断前提下开展肺癌和食管癌的累及野放射治疗,其次我们再进一步研究观察淋巴结转移的规律,将锁骨上和上纵隔淋巴结区进一步划分为亚区,观察不同亚区的转移概率,进而确定亚靶区,第三我们通过多种影像学精确确定食管癌的原发灶靶区范围,总之做到小而不漏。我们还从放疗计划和实施角度,基于联合代谢功能和解剖结构成像的四维PET/CT技术的呼吸运动分析、动态靶区勾画和放疗分次内累积剂量计算策略,在现有治疗计划系统基础上开发具有自主知识产权的"肺动态靶区放疗剂量计算"功能模块,并进一步搭建基于三维剂量验证系统 COMPASS 与PET/CT系统的"动态靶区剂量时空分布的验证平台"。从而优化计划、防止脱靶,减少照射范围。总之从放疗的各个环节减少治疗损伤,使得有效的患者能够更好的获益,提高生活质量。

总之,通过多模态影像组学开发、生物标志物的创新应用、纳米材料放射增敏技术研发等,确立了一系列切实可行、可显著提高放疗精度、精准减毒增效、指导个体化治疗的关键技术和治疗策略,取得了多项有重要影响力的学术成果,应用于临床可改善生存、提高生活质量。已经授权国家发明专利8项;20篇代表性英文论文被SCI-E数据库收录,IF=97.839,SCI他引次数合计496次和他引总次数合计538次。被国内外会议收录19次,其中美国AAPM、ASTRO、欧洲ESTRO等国际大会报告3次,国内大会报告1次。相关研究成果已在国内多家大型三甲医院推广应用,具有良好的社会效益。本课题研究培养博士生4名,硕士生20名。

知识产权证明目录

序号	类别	国别	授权号	授权 时间	知识产权具体名称	发明人
1	中国发明专利	中国	ZL 2019 0543518.2	202 0- 11- 17	一种基于 SUV 值的调强 放疗检测系统及方法	马长升;梁 月强;马长 东;郭锦娜; 于霜
2	中国发明专利	中国	ZL 2015 10611754.5	201 8- 01- 09	放疗中基于 MVCBCT 和 KVCT 的金属伪影去除方 法	倪昕晔;高 留刚
3	中国发明专利	中国	ZL 2018 11420914.8	201 8- 12-	CT 成像中基于非共面扫 描的金属伪影校正方法	高留刚;倪 昕晔;孙鸿 飞;林涛;

				22		谢凯;眭建 峰
4	中国发明专利	中国	ZL 2016 10597028.7	201 8- 02- 06	一种新型的患者移动承 载装置	尚东平;霍 志军
5	中国发明专利	中国	ZL 2017 10318133.7	201 9- 04- 05	双亲性石墨烯-金热放疗 纳米药物及其制备方法 和应用	罗居东;徐 英;蒋华; 倪昕晔;朱 文宇;孙志 强;焦旸; 张琦
6	中国发明专利	中国	ZL 2016 10598554.5	201 8- 09- 25	一种神经电极	罗居东;张 琦;张舒羽; 宋琴;周希 法;曹建平
7	中国发明专利	中国	ZL 2014 10282013.2	201 4- 06- 23	有关 CyclinD 蛋白抑制剂 多肽及其应用	罗居东;周 希法;陆忠 华;唐益庭; 汤华;卢绪 菁
8	中国发明专利	中国	ZL 201210330 180.0	201 2- 09- 07	一种用于放疗精确划线 的记号笔	韩大力,于 金明,于甬 华,侯庆珍, 卢洁,张桂 芳

代表性论文目录

序号	论文名称	刊名	年,卷 (期)及 页码	影响因子	通讯作 者 (含 共同)	SCI 他引 次数	他引 总次 数	通讯作者 单位是否 含国外单 位
1	Orientational Binding of DNA Guided by the C2N Template	ACS NANO	2017, 11 (3): 3198– 3206	14.8 58	李伟峰, 罗居东, 周如鸿	28	29	否
2	Stereotactic ablative radiotherapy in treatment of early-stage non-small cell lung cancer:	CANCER LETTERS	2017, 401: 46–52	7.36	李明焕, 于金明	0	0	否

Unsolved questions and frontiers ahead Radiation-induced miR-208a increases the proliferation and radioresistance by targeting p21 in human lung cancer cells The lymphocyte-monocyte ratio predicts tumor response and survival in patients 4 with locally advanced definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-associated macrophage ratio in patients with stage T3NOMO esophageal									
Radiation-induced miR-208a increases the proliferation and radioresistance by targeting p21 in human lung cancer cells The lymphocyte-monocyte ratio predicts tumor response and survival in patients With locally advanced definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-associated macrophage ratio in patients with stage T3NOMO RESPERIME EXPERIME NTAL & 2016, 35: 7 CLINICAL CANCER RESEARCH ONCOTARG 2017, 10:87 THERAPY 1-877 PONCOTARG 2017, 10:87 THERAPY 1-877 INTERNATI ONAL JOURNAL 2016, 95 (2): 751 ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, 66 (3): 10:40 ERAPY 354		-							
miR-208a increases the proliferation and radioresistance by targeting p21 in human lung cancer cells RESEARCH The lymphocyte-monocyte ratio predicts tumor response and survival in patients of radiation-induced definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO The proliferation and trade and radioresistance of the patients with stage T3NOMO The EXPERIME NATL 2016, 35: 7 EXPERIME NATL & 2016, 35: 7 CLINICAL CANCER RESEARCH INTERNATI ONCOTARG 2017, 10:87 THERAPY 1-877 THERAPY 1-8									-
the proliferation and radioresistance by targeting p21 in human lung cancer cells The lymphocyte-monocyte ratio predicts tumor response and survival in patients with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO The protesistance by targeting p21 in NTAL & CANCER RESEARCH ONCOTARG 2017, 10:87 THERAPY 1-877 10:87 THERAPY 1-877 THERAPY 1-877 Proteomic profiling ONAL JOURNAL 2016, OF 95 (2): 751- 751- 760 IMMUNOLO 2017, 666 (3): 1MMUNOLO 343- 354									否
radioresistance by targeting p21 in human lung cancer cells The lymphocyte-monocyte ratio predicts tumor response and survival in patients 4 with locally advanced definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system 6 Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-associated macrophage ratio in patients with stage T3NOMO The lymphocyte cocal call in targeting p21 in									
aradioresistance by targeting p21 in human lung cancer cells RESEARCH The lymphocyte-monocyte ratio predicts tumor response and survival in patients 4 with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Frognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO The Impact Action Clinical Cancer				2016.	7.06	】 罗居东,			
targeting p21 in human lung cancer cells RESEARCH The lymphocyte-monocyte ratio predicts tumor response and survival in patients ONCOTARG 2017, advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO The Improved CANCER RESEARCH CANCER RESEARCH CANCER RESEARCH CANCER RESEARCH CANCER RESEARCH INTERNATI ONCOTARG 2017, ETS AND 10:87 THERAPY 1-877 DONCOTARG 2017, GNCOTARG 2017, GNCOT	E	sistance by			8	张舒羽	85	95	
The lymphocyte- monocyte ratio predicts tumor response and survival in patients 4 with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin- proteasome system Prognostic significance of the lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO PNCOLOGY PHYSICS RESEARCH ROUTH REAPY 1-877	Э.	ting p21 in				JAH, J			
The lymphocyte- monocyte ratio predicts tumor response and survival in patients 4 with locally advanced esophageal cancer who received definitive chemoradiotherapy THERAPY Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin- proteasome system Frognostic significance of the lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO ONCOTARG 2017, ETS AND 10:87 THERAPY 1-877 Proteomic profiling ONAL JOURNAL JOURNAL 2016, 95 (2): RADIATION 751- ONCOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH 343- ERAPY 354	n	_							
monocyte ratio predicts tumor response and survival in patients 4 with locally advanced response and survival in patients 5 advanced advanced definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system proteasome system Frognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO ONCOLOGY 2017, 2016,		cells	RESEARCH						
predicts tumor response and survival in patients 4 with locally advanced esophageal cancer who received definitive chemoradiotherapy 5 Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system proteasome system 6 Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO 10.87 ETS AND 10:87 10.87 ETS AND 10:87 10.87 ETS AND 10:87 10.87 ETS AND 10:87 10.87 ERAPY 1-877 ETS AND 10:87 INTERNATI ONAL 2016, 95 (2): RADIATION 751- ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOTH 343- ERAPY 354	ly	mphocyte-							否
response and survival in patients with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-tomonocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO THERAPY 10:87 INTERNATI ONAL 2016, 95 (2): RADIATION 751– ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH 343– ERAPY 354	1	ocyte ratio							
survival in patients with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin- proteasome system Prognostic significance of the lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO THERAPY 10:87 THERAPY 10:87 INTERNATI ONAL JOURNAL 2016, 95 (2): RADIATION ONCOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH STANOMO TERAPY 354	b	icts tumor							
4 with locally advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: 0F 95 (2): 751— 0NCOLOGY PHYSICS 6 Prognostic significance of the lymphocyte-tomonocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	р	onse and							
advanced esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO INTERNATI ONAL 2016, 95 (2): RADIATION 751-ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, GY 66 (3): IMMUNOTH 343-ERAPY 354	а	l in patients	ONCOTARG	2017,	2 22				
esophageal cancer who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats:	it	h locally	ETS AND	10:87	3.33	于金明	13	16	
who received definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO INTERNATI ONAL 2016, 95 (2): RADIATION 751– ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH 343– ERAPY 354	C	lvanced	THERAPY	1-877	7				
definitive chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO INTERNATI ONAL 2016, 95 (2): RADIATION 751- 760 PROPROSTIC SIMMUNOLO 2017, 66 (3): IMMUNOTH S43- 354	16	ageal cancer							
chemoradiotherapy Proteomic profiling of radiation-induced skin fibrosis in rats:	o	received							
Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO Topic proteomic profiling ONAL JOURNAL 2016, 95 (2): RADIATION 751-ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, GY 66 (3): IMMUNOTH ERAPY 354	le	efinitive							
Proteomic profiling of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO Skin fibrosis in rats: OF 95 (2): RADIATION 751– ONCOLOGY 760 RADIATION 66 (3): IMMUNOLO 2017, 66 (3): IMMUNOTH 343– ERAPY 354	0	radiotherapy							
of radiation-induced skin fibrosis in rats: targeting the ubiquitin-proteasome system Prognostic significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO ORALL 2016, 95 (2): RADIATION 751- ONCOLOGY 760 BIOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH 343- ERAPY 354			INTERNATI						否
skin fibrosis in rats: targeting the ubiquitin- proteasome system BIOLOGY PHYSICS Prognostic significance of the lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	o	mic profiling	ONAL						
targeting the ubiquitin-proteasome system BIOLOGY PHYSICS Prognostic Significance of the Iymphocyte-to-monocyte ratio and the tumor-infiltrating Iymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO RADIATION 751– 760 RADIATION 751– 760 RADIATION 751– 760 BIOLOGY PHYSICS IMMUNOLO 2017, 66 (3): IMMUNOTH 343– ERAPY 354	а	tion-induced	JOURNAL	2016,					
targeting the ubiquitin-proteasome system BIOLOGY PHYSICS Prognostic Significance of the Iymphocyte-to-monocyte ratio and the tumor-infiltrating Iymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	b	rosis in rats:	OF	95 (2):	5.85	-1.4			
ubiquitin- proteasome system BIOLOGY PHYSICS 6 Prognostic significance of the lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	g	eting the	RADIATION		9	张舒羽	11	13	
proteasome system BIOLOGY PHYSICS 6 Prognostic IMMUNOLO 2017, significance of the Iymphocyte-to- monocyte ratio and the tumor-infiltrating Iymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	_	_	ONCOLOGY	760					
PHYSICS 6 Prognostic IMMUNOLO 2017, significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO									
6 Prognostic Significance of the Significance		•							
significance of the lymphocyte-to-monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO	r	ognostic		2017,	5.44	李明焕,	26	28	否
lymphocyte-to- monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO					2	于金明			
monocyte ratio and the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO				` ′					
the tumor-infiltrating lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO		-							
lymphocyte to tumor-associated macrophage ratio in patients with stage T3NOMO									
tumor-associated macrophage ratio in patients with stage T3N0M0		_							
macrophage ratio in patients with stage T3NOMO	•	-							
patients with stage T3N0M0									
T3N0M0		_							
		_							
squamous cell		_							
,	7	BNOMO ophageal							

	carcinoma							
7	Fluorescent microspheres for one-photon and two- photon imaging of mesenchymal stem cells	JOURNAL OF MATERIALS CHEMISTR Y B	2017, 5 (38): 7809– 7818	5.34 4	李晓然, 罗居东	5	5	否
8	Identification of risk factors and the pattern of lower cervical lymph node metastasis in esophageal cancer: Implications for radiotherapy target delineation	ONCOTARG ET	2017, 8 (26): 43389 - 43396	5.16 8	李明焕	3	4	否
9	CD8+/FOXP3+ratio and PD-L1 expression associated with survival in pT3N0M0 stage esophageal squamous cell cancer	ONCOTARG ET	2016, 7 (44): 71455 - 71465	5.16 8	李明焕, 于金明	30	30	否
10	Upregulation of Ying Yang 1 (YY1) suppresses esophageal squamous cell carcinoma development through heme oxygenase-1	CANCER SCIENCE	2013, 104 (11): 1544– 1551	4.96 6	凌扬, 张舒羽	21	22	否
11	Robust Denaturation of Villin Headpiece by MoS2 Nanosheet: Potential Molecular Origin of the Nanotoxicity	SCIENTIFIC REPORTS	2016, 6:282 52	3.99 8	罗居东, 周如鸿	17	17	否

	Graphene-Induced		2017,					否
12	Pore Formation on	SCIENTIFIC	7:	3.99	罗居东,	48	50	
	Cell Membranes	REPORTS	42767	8	周如鸿	10		
	OTUD5 Regulates		2013,					否
	p53 Stability by		8 (10):		凌扬,			
13	Deubiquitinating	PLOS ONE	e7768	2.74	周希法	37	37	
	p53		2		7 3 11 7 7			
	miR-107 and miR-							否
	25 simultaneously	BIOCHEMI						
	target LATS2 and	CAL AND	2015,					
	regulate proliferation	BIOPHYSIC	46 (3):	2.98				
14	and invasion of	AL	806–	5	崔永春	35	40	
	gastric	RESEARCH	812					
	adenocarcinoma	COMMUNI						
	(GAC) cells	CATIONS						
	Involved-field							否
	irradiation in							
	definitive							
15	chemoradiotherapy	RADIATION	2014,	2.81	孔莉,	21	27	
13	for locally advanced	ONCOLOGY	9:64	7	于金明	21	21	
	esophageal							
	squamous cell							
	carcinoma							
	Upregulation of the							否
	miR-212/132		2015,					
16	cluster suppresses	ONCOLOGY	33 (2):	3.41	罗居东,	27	29	
	proliferation of	REPORTS	705–	7	周希法			
	human lung cancer		712					
	cells							
	Artemisinin							否
	derivative							
17	artesunate induces	RADIATION	2014,	2.81	曹建平	28	34	
	radiosensitivity in	ONCOLOGY	9:84	7	,			
	cervical cancer cells							
	in vitro and in vivo			_	·			
18	Structural Damage	JOURNAL	2016,	4.18	罗居东,	26	26	否
	of a beta-Sheet	OF	120	9	周如鸿			
	Protein upon	PHYSICAL	(12):					
	Adsorption onto	CHEMISTR	6796–					
	Molybdenum	Y C	6803					

	Disulfide Nanotubes							
	The effects of							否
	aberrant expression		2018,					
	of LncRNA	CANCER	7(7):	3.49	倪昕晔,			
19	DGCR5/miR-873-	MEDICINE	3331-	3.49 1	马长升	22	22	
	5p/TUSC3 in lung	IVILDICINE	3341		一 ラ 入 川			
	cancer cell		3341					
	progression							
	Involved-field							否
	radiotherapy for							
20	esophageal	RADIATION	2016,	2.81	李明焕,	13	1.1	
20	squamous cell	ONCOLOGY	11: 18	7	于金明	13	14	
	carcinoma: theory							
	and practice							

主要完成人和主要完成单位情况

主要完 姓名:李明焕

成人情

排名:1

况

职称:主任医师 行政职务:科主任

工作单位:山东省肿瘤防治研究院

对本项目的贡献:负责本项目的整体设计、实施、总结和推广,是创新点 1、2、3的主要完成人,对所有创新均做出重要贡献,第1或通讯发表 SCI 论文 5 篇。

姓名:马长升 排名:2

> 职称:副研究员 行政职务:无

工作单位:山东省肿瘤防治研究院

对本项目的贡献:负责本项目的整体设计、实施、总结和推广,是创新点 1、2、3 的主要完成人,对所有创新均做出重要贡献,发明专利 1 项,第 1 或通讯发表 SCI 论文 3 篇。

姓名:罗居东 排名:3

职称:副主任医师 行政职务:副主任

工作单位:常州市第二人民医院

对本项目的贡献:负责数据整理,论文撰写及推广应用,对创新点 4,5 做出贡献。

发明专利 3 项,第1或通讯作者发表 SCI 论文 5 篇。

姓名:尚东平 排名:4

职称:副主任医师

行政职务:副主任

工作单位:山东省肿瘤防治研究院

对本项目的贡献:负责数据整理,论文撰写及推广应用,对创新点1、2做出贡献。

发明专利 1 项,第 1 作者或通讯作者发表 SCI 论文 1 篇。

姓名:倪昕晔

排名:5

职称:研究员

行政职务:副院长

工作单位:常州市第二人民医院

对本项目的贡献:负责数据整理,论文撰写及推广应用,对创新点 2、3 做出贡献。

发明专利 2 项,第 1 或通讯作者发表 SCI 论文 3 篇。

姓名:韩大力

排名:6

职称:副主任医师

行政职务:无

工作单位:山东省肿瘤防治研究院

对本项目的贡献:作为主要完成人之一,参与了课题的设计和实施,具体负责的研究内容是 PET/CT 在食管鳞癌的临床靶区确定,亚临床病灶构成及其对预后影响。

采用功能影像勾画食管癌临床靶区,可以更为精准的判断病灶范围及预测预后。同

时,积极撰写论文及参加学术交流。发明专利2项。

姓名: 崔永春

排名:7

职称:副研究员 行政职务:科主任

工作单位:山东省肿瘤防治研究院

对本项目的贡献:参与项目设计阶段的统计学方法理论指导与方案审查与修改;项目实施过程中负责数据的收集、整理与分析;参与项目结题报告的撰写工作。发表

SCI 论文1篇。

姓名:郭栋

排名:8

职称:医师

行政职务:无

工作单位:山东省肿瘤防治研究院

对本项目的贡献:参与项目设计阶段的统计学方法理论指导与方案审查与修改;项目实施过程中负责数据的收集、整理与分析;参与撰写 SCI 论文,发表 SCI 论文 2

篇。

主要完

单位名称:山东省肿瘤防治研究院

成单位 情况 排名:1

对本项目的贡献:胸部肿瘤是严重影响我国国民健康的重大疾病,一直受到山东省肿瘤防治研究院临床治疗专家和科研工作者的关注。山东省肿瘤防治研究院作为本

项目第一完成单位,负责该项目设计、实施、总结、申报和推广,是项目创新点的主要完成单位。在该项目申报过程和实施过程中,研究院在人力、物力、财力等各方面给予了大力支持,尤其是病例的提供、标本收集及随访。本单位对科研高度重视,学术氛围浓厚,科研条件优越,具有先进的科研管理及保障体系,并对科研经费进行了相应的配比,保障本项目顺利完成;拥有"山东省放射肿瘤学重点实验室",提供完善的技术平台与硬件设施;建立了高水平的肿瘤标本库,能够保证实验研究的顺利进行和多篇高水平研究论文的发表,相关研究结果得到国内外同行专家的高频引用和正面评价。

单位名称:常州市第二人民医院

排名:2

对本项目的贡献:在该项目申报过程和实施过程中,医院在人力、物力、财力等各方面给予了大力支持,尤其是病例的提供、标本收集 及随访。本单位对保障本项目顺利完成提供完善的技术平台与硬件设施;能够保证实验研究的顺利进行和多篇高水平研究 论文的发表,相关研究结果得到国内外同行专家的高频引用和正面评价。主要具体贡献如下:

- (1)常州市第二人民医院进行图像形变配准并应用运动分析技术,为自适应放疗研究提供依据,推广其在图像引导放疗领域的应用;
- (2)与山东省肿瘤防治研究院研究团队合作完成上述图像分析技术的功能实现,并共同完成在合作应用单位的测试运行;
- (3)应用呼吸运动分析技术收集胸腹患者运动状态,并应用图像配准技术,指导精确放疗;
- (4)进一步应用结合图像配准及多模态影像预测胸腹部肿瘤运动模式,指导个体化治疗方案应用。