





Concerned information written by applicant	Applicant: Shoujun Liang		
	Education of applicant: Master Degree	Professional title: Resident Doctor	
	Study title: Animal and human experiment study of contrast-enhanced ultrasound in the diagnosis of nasopharyngeal carcinoma		
	Aim of experiment: To explore the diagnostic and differential diagnostic value of Contrast-enhanced Ultrasound (CEUS) for nasopharyngeal carcinoma (NPC) transplantation tumor and explore the efficiency of CEUS in examination of changes in NPC before and after radiotherapy in nude mice models.		
Fund sources: The National Natural Science Foundation of China(grant number: 81560288)			
Source of animal: 1、 Experimental Animal Center of Guangxi Medical University 2、 Hunan SJA Laboratory Animal Co., Ltd			
Species or strain: BALB/c-nu		Grade: SPF	Specifications: 4 weeks
Number: 100 (♀ 50 ; ♂ 50)		Application date: August 2017	
Entering date: August 2017		Ending date: December 2019	
Outline of experiments: experimental methods; observational index:			
<p>1. The nude mice are randomly divided into NPC group、 Inflammatory group、 Radiotherapy group and Hemangioma group.</p> <p>2. Establish mice model of xenografts and use an Aplio 500 ultrasound equipment to obtain CEUS images of NPC、 inflammatory mass and hemangioma.</p> <p>3. Analyze the CEUS quantitative parameters: (1) peak intensity (PI), (2) time to peak (TTP), (3) mean transit time (MTT), (4) area wash in (AWI), (5) area wash out (AWO).</p> <p>Human endpoint or experimental terminative indicator:</p> <p>When the length, width and thickness of the tumor approach 2 cm.</p>			
Executing animal method:			
Nude mice were euthanized by CO2 overdose.			
Major measure for 3Rs:			
<p>1、 Strengthen nutrition for nude mice, improve experimental efficiency and shorten experimental time to improve the tolerance of nude mice and prolong life.</p> <p>2、 Establish models on both sides of the back of nude mice to improve the success rate of experiments.</p> <p>3、 Each mouse was anesthetized by inhalation of isoflurane (2% induction and 1.5% maintenance) through a Gas filter canister R510-31 (RWD, China).</p>			
Signature of applicant: Shoujun Liang 			Telephone: 13197616366

Results of inspection	Study director: Shangyong Zhu Agree <input checked="" type="checkbox"/> Disagree <input type="checkbox"/> Signature  Opinion from laboratory animal facility: Agree) <input checked="" type="checkbox"/> Disagree <input type="checkbox"/> The Animal Care & Welfare Committee: Agree) <input checked="" type="checkbox"/> Disagree) <input type="checkbox"/> Signature  Stamp 
Supplement:	First trial <input checked="" type="checkbox"/> reexamine No. <input type="checkbox"/>

Notes : Animal ethics review follows the *Guiding Opinions on the Treatment of Laboratory Animals* issued by the Ministry of Science and Technology of the People's Republic of China and the *Laboratory Animal-Guideline for Ethical Review of Animal Welfare* issued by the National Standard GB/T35892-2018 of the People's Republic of China. If there are any uncertainties, please refer to these two documents or consult The Animal Care & Welfare Committee of Guangxi Medical University.