Initial Experimental Study on the Emergency Injuries of Left Ventricular Function of Pig with Myocardial Contusion

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Objective To investigate the changing regularity of left ventricular functional injuries after emergency severe myocardial contusion(MC). Methods 16 small type pigs were selected and then impacted to establish myocardial contusion model. Life signs of these pigs were conventionally monitored at time points as before wounding, instantly post wounding, 2h, 4h and 8h after wounding, and also the dual-source computed tomography(DSCT) examination, and the images were analysed after reconstruction. The index including Ejection Fraction (EF), the wall thickness of left ventricle at the end of Syst and Diast phase, and also the difference of diameter of left ventricle. Results After severe MC, heart rate of pigs presented a continuous decrease, mean arterial pressure (MAP) decrease distantly and obviously increased at 4h and 8h. The function of left ventricle change reversely. The EF value has big descend, it is 18.8%, 21.3%, 16.74%, 5.3%, respectively. There have statistic difference between the 2H, 4H and that before wounding($P<0.05$), the difference of diameter of left ventricle at 2H is different from others. Conclusion The dual-source CT is very useful, It can be as a method of choice when diagnosis the changing regularity of left ventricular functional injuries after emergency severe myocardial contusion.