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A NOVEL METHODOLOGY OF BALLOON PLUS MICRO-EMBOLIS ON PORCINE ACUTE MYOCARDIAL INFARCTION MODEL

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Objective To develop and establish an alternative acute myocardial infarction porcine model which is much safer, faster and more convenient than routine methods. Compare performance between two modified methods for establishing porcine AMI model.

Methods A total of 30 domestic miniature swine, mean weight 26.5 ± 4.8 kg, were randomly divided into two groups, group A (n=13) and group B (n=17), according to experimental protocol. The balloon catheter was positioned in the mid-distal segment of left anterior descending (LAD), and dilated with

rated pressure for 60 min after ischemia precondition, then the micro-embolis was sent to the distal of target vessel in group A; In group B, the micro-embolis was positioned in the distal segment of target vessel directly. Interventional procedure time and model success rate were collected in the two groups, respectively.

Results Twenty-Six porcine AMI models were established successfully. Model success rate of group A was 84.6%, and 88.2% in group B. No statistic significance was found in the two groups. However mean operation time of group B was significantly shorter than that of group A, 28.4 ± 9.4 min versus 105.8 ± 27.6 min, $p < 0.001$.

Conclusions Balloon plus micro-embolis induced porcine acute myocardial infarction model shows the advantages of being feasible, safe, operation-time saving and therefore is a promising improvement for porcine AMI model