

Comparison of shortcomings of major modeling methods

Modeling method	Specific operations	shortcoming
High-fat diet+liquid nitrogen damages vascular endothelium (rabbit)	Under high-fat diet conditions, liquid nitrogen was used to directly damage the vascular endothelium, and the high-fat diet continued for 8 weeks.	The liquid nitrogen injury step has certain risks for the operator. At the same time, the operation is poorly controllable and the animal mortality rate is high.
High-fat diet+balloon straining vascular endothelium (rabbit)	Keep feeding on a high-fat diet, perform aortic endothelial balloon strain surgery after 0-3 weeks, and continue feeding for - 14 weeks after surgery	The operation is complicated and can easily cause death of animals.
High-fat diet+dissection and air-drying of right femoral artery endothelium (rabbit)	After maintaining a high-fat diet for 2-4 weeks, the right femoral artery was dissected and air-dried to damage the endothelial cells, and the animals were continued to be fed for 6 weeks after surgery.	During the process of endothelial drying, the fragility of blood vessels increases, easily causing arterial rupture.
High-fat diet+carotid artery fixation (rabbit)	A silicone rubber ring was placed around the left common carotid artery of the rabbit and fixed with silk thread to cause vascular stenosis. The rabbit was fed high-fat feed for 8 weeks after surgery.	Limited to the study of atherosclerotic plaques caused by hemodynamic changes.
high fat diet (pig)	10% lard + 0.75% cholesterol	expensive
ApoE ^{-/-} mice	5%-40% fat + 0.15%-4% cholesterol, sugars, proteins, etc. can be added.	The modeling cycle is long and is greatly affected by the feed formula.