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Effect of *Shenqi Compounds* (参芪复方) on Differential Gene Expression in Thoracic Aorta of Rats with Diabetic Great Vascular Complications

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ABSTRACT Objective To explore the possible molecular mechanism of *Shenqi Compounds* (参芪复方) in preventing and treating diabetic great vascular complications. **Methods** Totally 160 Goto-Kakizaki (GK) rats with spontaneous type 2 diabetes were given high-fat diet for 12 weeks to establish diabetic great vascular complications model. The rats were then randomly divided into model group, western medicine group, *Shenqi* high, middle and low groups, with 32 rats in each group. Other 32 Wistar rats were set as blank group. After modeling, the western medicine group was given 0.1 g/(kg·d) of diformin tablet for gavage, while the *Shenqi* high, middle and low groups were respectively given 2.88, 1.44 or 0.72 g/(kg·d) of *Shenqi Compounds* for gavage. The blank and model group were given 5 ml/(kg·d) of saline for gavage. The medication were all for 16 weeks. Fasting blood-glucose was examined before giving medicine and in the 8th and 16th week during treatment. In the 8th and 16th week, Masson stain was adopted to observe pathomorphism of thoracic aorta and calculated perivascular circumferential area/lumen area (PVCA/LA). Differential genes screening was conducted in the 16th week. **Results** Compared with the blank group at the same time point, fasting blood-glucose of rats increased before and in the 8th and 16th week during giving medicine, and PVCA/LA remarkably increased in the 8th and 16th week in the model group ($P < 0.05$ or $P < 0.01$); In the 16th week, fasting blood-glucose of rats in the western medicine group and *Shenqi* high, middle and low groups were lower than that in the model group at the same time point and PVCA/LA all remarkably decreased ($P < 0.05$ or $P < 0.01$). There were in total 15 remarkable common differential genes between the *Shenqi* middle group and the model group, and the model and the blank group. Among them, *Elavl1* and *Lama4* were genes that had relationship with diabetic great vascular complications. *Elavl1* and *Lama4* genes in the *Shenqi* middle group decreased. **Conclusion** The possible functional mechanism of *Shenqi Compounds* in preventing and curing diabetic great vascular complications might be related with down-regulating *Elavl1* and *Lama4* gene expression in thoracic aorta and therefore inhibiting angiogenesis and reducing collagen fibers producing.

Keywords diabetic great vascular complications; *Shenqi Compounds*; thoracic aorta; differential genes

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特色王氏热透灸免费公益培训

一、王氏热透灸的特点

1. 药艾条直径 4 cm, 长 10 cm, 单根最长可燃烧 3 个小时, 可以多根并用 (3—16 根) 燃烧温度高达 500 余度; 2. 有专用灸器; 3. 无烟艾灸; 4. 大面积、短时间、近距离、高温、药力峻、强渗透、施用后即有灸感 (透肉、透筋、透骨); 5. 充分展现古灸大法四两拨千斤的太极功力。

二、该技术可应用于针灸康复科、疼痛科、肾病科、肿瘤科、治未病科等。

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