RELATIONSHIP BETWEEN ATRIAL ELECTROMECHANICAL FUNCTION IMPAIRMENT AND ATRIAL FIBRILLATION IN ALLOXAN-INDUCED DIABETIC RABBITS

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Objectives To evaluate the potential relationship between atrial electromechanical function and atrial fibrillation (AF) inducibility in alloxan-induced diabetic rabbits.

Methods In 8 alloxan-induced diabetic rabbits and 8 controls, we measured atrial electromechanical coupling start intervals and P-a' peak intervals by DTE; isolated Langendorff perfused rabbit hearts were prepared to evaluate vulnerability to AF. Sirius-Red staining was used to evaluate atrial fibrosis.

Results Compared with controls, left atrial (LA) lateral wall Pastart (latPastart) and right atrial wall Pastart (raPastart) were increased in diabetic rabbits. Inducibility of AF in diabetic group was significantly higher than controls (6/8 vs 1/8, p<0.05). Extensive interstitial fibrosis was observed in the DM group (p<0.01).

Conclusions Atrial electromechanical function is impaired in diabetic rabbits and may serve as an important substrate for the development of AF.