

Role of vascular angiotensin II for the development of coronary artery stenosis

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1991 Fiscal Year Final Research Report Summary

Role of vascular angiotensin II for the development of coronary artery stenosis

Research Project

Project/Area Number

02454219

Research Category

Grant-in-Aid for General Scientific Research (B)

Allocation Type

Single-year Grants

Research Field

内科学一般

Research Institution

Kanazawa University

Principal Investigator

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Keywords

Angiotensin II / Endothelin / Hypertension / SHR / Diabetic Rat / Mesenteric artery

Research Abstract


In spontaneously hypertensive rats, plasma endothelin concentration as well as the peptide released from the mesenteric arteries were significantly increased both at 5 and 10 weeks of age. This finding suggests that endothelin may contribute for the development of hypertension in this model. We also studied the vascular endothelin production in the streptozotocin induced diabetic rats. In diabetic rats, endothelin was significantly increased as compared with the control rats indicating that endothelin may serve as a marker for the vascular insults in diabetes associated with microangiopathy. We assume that endothelin was increased in diabetic rats as a result of functional and/of structural derangement caused by streptozotocin diabetes. In the last part of the experiment, we measured plasma and arterial endothelin in rats treated with interleukin 2, an agent reported to cause extravasation of fluid in the third space, presumably as a result of endothelial damage. We conclude that plasma endothelin will be used as a marker for the endothelial function in this condition. We plan to undertake further study as to the possibility of endothelin receptor antagonist for the therapeutic purpose.


Research Products (6 results)


All Other


All Publications (6 results)


[Publications] Y.Takeda,I.Miyamori,T.Yonede,R.Takeda: "Production of endothelin-1 from the mesenteric arteries of Streptozotocin induced diabetic rats." Life Sciences. 48. 2553-2556 (1991) 

[Publications] I.Miyamori,Y.Takeda,T.Yonede,R.Takeda: "Endotheilin-1 release from the mesenteric arteries of spontaneously hypertensive rats." J.Cardiovascular Pharmacology. 17(S7). S408-S410 (1991) 

[Publications] I.Miyamori,Y.Takeda,T.Yonede,K.Iki,R.Takeda: "Interleukin-2 enhance the release of endothelin-1 from the rat mesenteric arteries." Life Sciences. 49. 1295-1300 (1991) 

[Publications] Isamu Miyamori, Yoshiyu Takeda, Takashi Yoneda, Ryoyu Takeda: "Endothelin-I release from mesenteric arteies of spontaneously hypertensive arts." J. Cardiovascular Pharmacol.17(s7). S408-S410 (1991) 

[Publications] Y. Takeda, I. Miyamori, T. Yoneda, R. Takeda: "Production of endothelinl from the mesenteric arteries of streptozotocin induced diabetic rats" Life Sciences. 48. 2553-2556 (1991) 

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