

with age as was seen with adenylate cyclase activities. Na^+, K^+ -ATPase activities were significantly decreased ($p < 0.05$) in cardiac preparations from both strains of rats treated with methimazole (100 days: SHR 3.4 ± 0.4 ; WKY 2.4 ± 0.3). The activity of the $\text{K}^+, \text{Ca}^{++}$ -ATPase ($\mu\text{moles Pi/mg protein/h}$) was significantly higher ($p < 0.05$) in cardiac membranes prepared from SHR rats when compared to activities from membranes of WKY rats at all ages tested (100 days: 6.5 ± 0.4 and 5.5 ± 0.5). This ATPase activity of the sarcoplasmic reticulum also did not decrease with age as was seen with adenylate cyclase activities. Methimazole treatment decreased $\text{K}^+, \text{Ca}^{++}$ -ATPase activities ($p < 0.05$) in both strains of rats at all ages (100 days: SHR 4.0 ± 0.3 ; WKY 3.1 ± 0.5).

Discussion. The results of this study suggest that no differences exist in thyroid hormone levels between SHR and WKY rats. Methimazole treatment produced hypothyroidism and lowered blood pressure in the SHR to values similar to those observed in the untreated normotensive WKY rats. The increased cardiac index observed in the early stage in the development of hypertension² may be indicative of an increased beta-adrenergic reactivity. Prehypertensive SHR and age matched WKY rats exhibit similar apparent numbers of myocardial beta-adrenergic receptors and methimazole treatment does not significantly alter the numbers or apparent K_D for this receptor¹². The elevated isoproterenol-stimulated adenylate cyclase activity observed in the prehypertensive SHR may contribute to the elevated cardiac index seen in the development of hypertension. We confirm previous reports that hypothyroidism will lower this enzymatic activity⁵. The catecholamine-stimulated adenylate cyclase activity of the SHR can be decreased to or below the levels observed in the normotensive WKY rats by methimazole treatment up to 100 days of age. This lower activity may be in part responsible for the lower blood pressures seen in the treated SHR.

We confirm previous reports of elevated Na^+, K^+ -ATPase (13) and $\text{K}^+, \text{Ca}^{++}$ -ATPase¹⁴ activities for the SHR with

established hypertension and have demonstrated that these activities are also elevated in the prehypertensive SHR. These elevated enzyme activities may reflect responses secondary to alterations in membrane permeability to various electrolytes. The elevated adenylate cyclase activities which decrease as hypertension appears may be intimately involved in the development of hypertension in the SHR. Methimazole-induced hypothyroidism significantly decreased all activities and blood pressure thus suggesting the thyroid to be necessary for the complete expression of hypertension.

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CONGRESSUS

Austria

13th international congress of chemotherapy

Vienna, 28 August–2 September 1983

The scientific program of this congress to be held at the Kongresszentrum-Hofburg in Vienna will consist of main lectures, symposia, round table sessions and free papers with posters, and will include antimicrobial as well as anticancer topics. Further information, also concerning deadlines, etc., through the Secretariat of the 13th Int. Congress of Chemotherapy, or through Prof. K. Karrer, Institute for Cancer Research, University of Vienna, Borschkegasse 8a, A-1090 Vienna/Austria.

Austria

9th international mass spectrometry conference

Vienna, 30 August–3 September 1982

The conference is organized by the Austrian Mass Spectrometry Group, the Austrian Society for Microchemistry and Analytical Chemistry, the Austrian Chemical Society and the Institute of Analytical Chemistry of the University of Vienna in cooperation with an international scientific committee.

The program covers invited lectures, submitted papers and posters. For information please contact the secretariat of the conference: Interconvention, P.O. Box 105, A-1014 Vienna/Austria.