Stroke and hypertension rat abstract Hiroshi

Title;PREVENTION BY ASTAXANTHIN OF LIFE STYLE DISEASES: EXPERIMENTAL EVIDENCES

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Abstract;Astaxanthin (ASX), a red-orange carotenoid pigment, is a powerful antioxidant that occurs naturally in a wide variety of living organisms. We investigated the effect of ASX on the incidence of stroke, hypertension, and hyperglycemia in rats. Repeated ASX (50 mg/kg/day, p.o.) inhibited the incidence of stroke in SHR-stroke prone (SP). Pretreatment with 50 mg/kg/day of ASX for a week produced anti-hypertensive effect in awaked SHR. In the isolated aorta, ASX inhibited the vascular contraction induced by PGF2.ALPHA.. Pretreatment with L-NAME (10'-4'M) ameliorated the inhibitory effect of ASX. ASX produced a significant reduction in the elastin bands and diminished the wall thickness in the SHR aorta. Fifty mg/kg of ASX for 18 weeks caused a significant decrease in the blood glucose in SHR/ND mcr-cp (cp/cp). ASX (50 mg/kg) produced a tendency to improve the learning behavior deficit induced by the brain ischemia in mice. These results suggest that ASX may exert beneficial effects for the protection against lifestyle related diseases.