Egg reduces high blood pressure in spontaneously hypertensive rats

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Despite the fact that egg is an excellent source of well-balanced nutrients, egg consumption in many developed countries has declined in the last few decades due to the controversial cholesterol perception. Recent scientific evidence suggests that there is no direct relationship between egg intake and the incidence of cardiovascular diseases (CVDs). As a rich source of dietary proteins, our previous study showed that gastrointestinal digestion of cooked eggs could release several peptides with activity against Angiotensin Converting Enzyme-I (ACE-I), a key enzyme responsible for blood pressure regulation. The objective of the present study was to evaluate the in vivo blood pressure lowering effect of the FWE hydrolysate. Twelve to fourteen week old male spontaneously hypertensive rats (SHRs) were surgically implanted with telemetric blood pressure measuring devices in the left femoral artery. After one week recovery from surgery, the animals were randomly allocated to three treatment groups (Control, 100 and 1000 mg/kg BW hydrolysate n=8). SHRs were then fed with FWE hydrolysate and the blood pressure (BP) was recorded for three days (10 min every 60 minutes). At the dose of 1000 mg/kg BW, blood pressure was significantly decreased compared to the control. This result indicates that the presence of several potent ACE-I inhibitory peptides in the FWE hydrolysate might be absorbed into the body and thus exert an in vivo antihypertensive effect. Findings from this study might lend support to the use of egg as a functional food with potential therapeutic benefit in the prevention and management of hypertension.