The Potential Pathophysiological Role of STING in the Development of Hypertensive Nephropathy

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Hypertension has been considered a pandemic disease affecting different age populations. About 75 million American adults (32%) have hypertension. Having hypertension puts you at a risk for heart attack and stroke. High salt diet, obesity, excess consumption of alcohol, tobacco products, and gender are well established risk factors for hypertension. Males are more prone to develop hypertension more than females till approximately the age of 64. The bidirectional impact of nephropathy and hypertension has been a major area of study for many years. It has been shown that recruitment of inflammatory cells in the kidney plays an important role in the pathogenesis of renal damage and development of hypertension. cGAS (cyclic AMP-GMP synthase) – STING (stimulator of interferon gene pathway) is a newly discovered pathway involved in innate immunity. I received portions of kidneys from 8 weeks old SS rats were kept on 4% NaCl diet for 3 weeks. The kidneys were isolated and stored in -80 °C freezer. The present experiment tested differential STING expression among males and females fed on high salt diet. Results showed approximately 2 fold increase in STING expression in male group compared to the female. Further research regarding STING's effect on hypertensive nephropathy could be beneficial in decreasing the morbidity and mortality of these diseases.