CARDIOVASCULAR DISEASE DELAY IN CENTENARIAN OFFSPRING:
ROLE OF HEAT SHOCK PROTEINS
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Objective: With evidence pointing to the avoidance and/or delay of cardiovascular disease (CVD) in centenarian offspring (c-offspring), the evidence suggesting a protective role of HSP70 in CVD and an apparent decrease in HSP60 and HSP70 with advancing age, we hypothesized that levels of HSP70 would be lower in c-offspring when compared to age-matched controls. Methods: Serum from 20 c-offspring and 9 spousal controls was analyzed for the concentration of HSP70 using the ELISA kit. Results: We demonstrated that circulating HSP70 in c-offspring serum is approximately 10x less than circulating HSP70 found in the serum of spousal controls (p<0.001). Conclusions: C-offspring have extremely low levels of circulating HSP70. Circulating HSP has been shown to correlate in diseases in which there is destruction or damage to target tissues, including CVD and numerous autoimmune disorders. Low levels of circulating HSP may be an indicator of a healthy state and point to longevity of the host; therefore, we suggest that low levels of circulating HSP70 may be a marker for longevity.