Abstract: P6293

Assessment of testosterone /estradiol ratio, DHEA-S level and correlation with coronary inflammatory markers IL-1 & 6, TNF-1 and hsCRP predict 5 years risk of cardiovascular disease in men.

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Topic(s):
Basic Science - Cardiac Diseases: Leukocytes, Inflammation, Immunity

Citation:

Background:
Previous data showed the adrenal sex hormone dehydroepiandrosterone (DHEA) which is present in serum mainly as the sulfate DHEA-S is the most abundant steroid hormone and another hormones like testosterone, estradiol are related to cardiovascular risk in men. Literature revealed vascular and metabolic actions of DHEA/S, evidence for an association between DHEA/S levels and cardiovascular events is controversy.

Objectives:
Our aim is to review and clear the contradictory point regarding cardiovascular risk and correlation of testosterone/estradiol ratio, DHEA-S level with coronary inflammatory markers in men.

Methods:
Large population based cohort study done at multi centre of cardiology from 2013-2018 in India. We enrolled total 23631 normal healthy male population age between 40 to 60 years and divided into two groups based on testosterone/estradiol ratio (Group-A (n=2450) lower value of T/E ratio and Group-B (n=21181) normal or higher T/E ratio. We did cohort analysis for 5 years and evaluated DHEA-S level and correlated it with coronary inflammatory markers and cardiovascular risk.

Results:
In group –A (low T/E ratio) we found low level of DHEA-S (98% of individual) and higher value of interleukins IL-1(68%),IL-6(74%) and tumor necrosis factor TNF-1 (71%) and high sensitive C-reactive protein(hsCRP)(73% of individual). Data revealed two fold increase of high blood pressure and LDL cholesterol level as compared to group B (normal or high T/E ratio and normal or high value of DHEA-S). 2.5 fold higher rate of coronary heart disease(CHD) found in group A versus in group B. We did not found as much significant difference in stroke, carotid and peripheral artery disease. T/E ratio and DHEA-S levels were inversely associated with the age-adjusted risk of a CHD event; the hazard ratios and 95% confidence intervals per standard deviation (SD) increase were 0.76 (0.66 to 0.91) and 0.82 (0.72 to 0.93), respectively.

Conclusions:
Decrease ratio of testosterone/estradiol levels correlate decreased levels of DHEA-S which may increase the risk of CHD in men. For future aspect, correction of T/E ratio, DHEA-S and increase its awareness should be at mass level for prevention of CHD.
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