EDITORIAL

CAN WE TAKE HYPERURICEMIA AS A CARDIOVASCULAR RISK?

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Study conducted for Gouty arthritis at Pan Pakistan level in 2017 showed mean Uric Acid levels of 6.11±1.7mg/dl with frequency of hyperuricemia of 39% and having 27.9% male and 49.35 women respectively.[1]

This type of arthritis results from monosodium urate crystal deposition in and around the joints affecting big toe around the joints of hands and feet. Gout has been shown to increase with age and associated with diabetes & hypertension.[2,3] It has also been shown that hyperuricemia may be tied to increased risk of cardiovascular disease mortality.[4]

Hyperuricemia has also shown to increase atherosclerosis by systemic inflammation and oxidative stress. It also causes endothelial dysfunction and oxidation of lipoproteins with formation of atherosclerotic plaques.[5]

Recent studies have shown hypertension, coronary artery disease, cardiovascular diseases, vascular dementia and preclampsia to be associated with high uric acid levels. The studies include Rotterdam (Serum Uric Acid Level and Myocardial infraction),[2] PUMA study (Serum Uric Acid levels with cardiovascular events and deaths in hypertensive patients),[6] PAMELA study (increased risk of cardiovascular deaths with increase of every 1mg /dl).[4]

Three important co-relation i.e. Hyperuricemia, atherosclerosis and heart failure need bit of understanding. In one study elevated uric acid levels (75.5mg/dl) in 90% of adolescents with essential hypertension[7] and lower uric acid levels in teens with either white coat or secondary hypertension.[7] Secondly association between increased uric acid levels and coronary artery calcification has shown an independent risk factor for subclinical atherosclerosis in young adults.[8] Similar association was also seen in atherosclerotic vulnerable carotid plaque.[9] Thirdly in cardiovascular health study incidence of heart failure was 21% with Chronic hyperuricemia and 18% without.[10]

For management of hyperuricemia (gout) multidisciplinary approach involving primary care physicians, rheumatologist and cardiologists might improve associated cardiovascular diseases other than primary pathology.

Drugs like non-steroidal anti-inflammatory drug (NSAIDS), steroids & colchicine may improve Gout but improvement in cardiovascular comorbids are questionable.[11,12]

Though different epidemiological studies have shown hyperuricemia as an independent risk factor for cardiovascular diseases and hypertension. Further studies are needed that my elucidate association of increased uric acid level with cardiovascular diseases. Multidisciplinary approach, awareness and counselling patient will hopefully prevent onset of heart disease and improve survival outcomes for gouty patients.

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