THE ASSOCIATION BETWEEN HYPERURICEMIA AND CAROTID INTIMA-MEDIA THICKNESS IN PATIENTS WITH AND WITHOUT HYPERTENSION

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***Background:*** Several studies demonstrated that carotid intima-media thickness (C-IMT) is significantly associated with risk for myocardial infarction, stroke, death from coronary artery disease, or a combination of these events. Hyperuricemia is also a significane for cardiovascular disease or a coronary risk such as hypertension. However, the association between hyperuricemia and C-IMT have not been clarified.

***Purpose:*** Analysis the relation between hyperuricemia and C-IMT in patients with and without hypertension of an investigation carried out at Aljedani Hospital and Ibn Sina National Medical College in the Kingdome of Saudi Arabia from first of March 2009 to 31 August 2009. (Abdelhakem Selem Elsayedcorrespondenceemail, Mansour Mohamad Mostafa, Alshazly Abdelkhalik, Mohey Eldeen A. Eldeeb, Mohammed Shafee Abdulgani, 2010)

***Material and method***: There are 126 patients divided into four groups: Group A, included 59 hypertensive patients with hyperuricemia. Group B, included 28 hypertensive patients without hyperuricemia. Group C, included 17 non hypertensive patients with hyperuricemia. Group D, included 21 control subjects non hypertensive with normal uric acid and they did not receive any medicine for hyperuricemia or hypertension in their past history. From the patient groups we excluded patient with systolic blood pressure of 220 mm Hg or higher, acute coronary syndrome, stroke, or presence of a major illness such as cancer, liver disease, renal insufficiency and insulin-treated diabetes. C-IMT was measured by B-mode ultrasound. Uric acid level was assessed for all patients.

***Result***: C-IMT was significantly higher in group A, B and C than group D (1.0 ± 0.4 mm, 0.92 ± 0.28, 0.91 ± 0.17 and 0.70 ± 0.15, respectively); especially higher in group A than B. Uric acid levels in the groups with hyperuricemia (A and C) were positively correlated with C-IMT while there were no correlations in the other two groups without hyperuricemia (B and D).

***Conclusion***: It is observed that C-IMT is higher in hypertensive groups compare with non hypertensive groups. In hypertensive groups, C-IMT is higher in hypertension with hyperuricemia than without hyperuricemia. In non hypertensive groups, C-IMT of hyperuricemic group also higher than non hyperuricemic group. In conclusion, there is a correlative ratio between C-IMT and uric acid in blood serum even in patients without hypertension. Hence, good control of uric acid will assist to reduce cardiovascular risk in hypertensive and non hypertensive patients.