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Study of association of UACR with endothelial dysfunction in HIV patients on HAART

Avinash Hanbe Rajanna

Rajiv Gandhi University of Health and Sciences, India

In HIV(Human immunodeficiency virus) positive patients several factors have been proposed to explain the cardiovascular(CV) risk, which include pro-athero-thrombotic viral effect, infection-mediated immune dysfunction and possible effects of HAART(Highly active antiretroviral therapy). Presence of endothelial dysfunction, an early CV risk marker, in HIV-infected patients on long-term HAART. Endothelial dysfunction can be measured by bFMD(Brachial artery flow mediated vasodilatation).

Urine albumin to creatinine ratio (UACR) is frequent in HIV patients and is predictor of cardiovascular risk. UACR and endothelial dysfunction are positively associated in HIV affected patients thereby increased UACR might help to identify endothelial dysfunction in HIV patients on HAART.

Objectives

- To measure urine albumin to creatinine ratio in HIV patients on HAART
- To find out correlation between UACR and bFMD

Methodology: Study was conducted on HIV Patients admitted to hospital, considering the inclusion and exclusion criteria. Detailed clinical history, examination and Blood investigations were done. Endothelial function was assessed by brachial artery flow mediated vasodilatation (bFMD).

Results: Among 100 HIV patients, 14% had UACR <30 and 86% had UACR >30 and mean UACR is 90 ± 06 . Mean BFMD was 8.44 ± 7.65 . We identified a significant Negative correlations were found between bFMD and UACR ($r = -0.832$, $P < 0.001$).

Conclusion: Use of urine albumin to creatinine ratio (UACR) as a routine screening tests in those who are HIV positive on HAART can be used to find out those cases of HIV who are progressing towards cardiovascular impairment so that newer approaches can be used in them to prevent further cardiovascular involvement.