L’iperuricemia: da dato di laboratorio a fattore di rischio CV

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Zhu Y et al, Arthritis Rheum 2011

Human urate homeostasis


Schematic overview of the uric acid metabolism and Xantine-Oxidase pathway

Okworo ON et al, Pharmacol & Ther 2016

Haig A, 1892
Time to develop HTN in men with and without hyperuricemia in the MRFIT study

Krishnan E et al, Hypertension 2007

Quartiles of SUA and prevalence of CV risk factors and TOD in the cohort of the Brisighella Heart Study

Cicero AF et al, J Hypertens 2013

Hyperuricemia and Incident Hypertension: A Systematic Review and Meta-Analysis

Overall population

Males and females

Incident HTN rose by about 13% for any 1 mg/dl of SUA

High SUA and Increased Risk of Type 2 DM: A Systemic Review and Meta-Analysis of Prospective Cohort Studies

7 eligible articles derived from 8 prospective cohort studies, involving a total of 32016 participants and 2930 incident type 2 diabetes
Age and BP-adjusted HR for the associations between serum uric acid and cardiovascular disease: The Rotterdam Study

Summary of random-effects of cardiovascular impact of elevated SUA reported in meta-analysis of observational studies

Xanthine oxidase as a downstream mediator of oxidative stress, systemic and vascular activation of the RAS system and CV disease
The dual face of elevated SUA

Elevated SUA levels (genes & diet)

Production vs. Excretion

Tubular/Intestinal transport systems
Urate deposition
Inflammation and vascular damage

Renal disease

XO activity and genetics
Oxidative stress
Vascular damage

Gout and beyond

CV/metabolic disease

Allopurinol and FMD: a meta-analysis of RCTs

Forrest-plot of Xantine-Oxidase inhibition (XOI) on brachial artery FMD and acetylcholine-induced vasodilatation

Forrest-plot of Xantine-Oxidase inhibition (XOI) on marker of oxidative stress (serum malondylaldheide levels)


MacIsaac RL et al, Hypertension 2016

Risk of CV events

Risk of stroke

Tausche AK et al, Rheumatol Int 2013

RCT with ULT: surrogate end-points

RCT with ULT: Hard CV end-points

GRAZIE PER L’ATTENZIONE