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## Study on the relationship between hypertension and hyperuricemia in a group of patient in South Kivu, Democratic Republic of Congo

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**Introduction:** The region of South Kivu is characterized by a transition epidemiology with the gradual emergence of non-communicable cardiovascular diseases. Hypertension is one of major cardiovascular risk factors. Some international studies has find an association between hyperuricemia and blood pressure but any study was already done in Democratic Republic of Congo

**Objective:** Determine the frequency of uric acid in a group of patients, the relationship between serum uric acid and blood pressure as well as hyperuricemia and hypertension

**Methods:** Age, sex, height, weight, blood pressure, biological parameters (uric acid, low density lipoprotein, high density lipoprotein and total cholesterol, triglyceride and fasting glycaemia) and medical history related to metabolic disorders were observed in 378 patients from South Kivu. The simple linear, multiple and logistic regressions of uric acid, age, BMI, waist circumference, blood glucose levels in blood pressure were achieved to evaluate the relationship between serum uric acid and all risk factor of metabolic syndrome as defined by International diabetes federation.

**Results:** Our results show the uric acid was significantly higher in men ( $p=0.03$ ) in patients with high BMI ( $p=0.0018$ ) and those with high waist circumference ( $p=0.039$ ). We also have found that hyperuricemia was not a risk factor for high blood pressure occurred (odds ratio=1.0625,  $P=0.8545$ ). The uric acid levels remained significantly associated with Systolic Blood Pressure (partial  $r=0.15$ ,  $p=0.008$ ), after adjustment for age (partial  $r=0.36$ ,  $p<0.0001$ ) and waist circumference ( $r$  partial=0.16,  $p=0.005$ ) but was not significantly associated with diastolic blood pressure ( $r=0.04$ ,  $p=.43$ ). We found that uric acid was significantly higher in patients without diabetes ( $p=0.006$ ) and without metabolic syndrome ( $P=0.04$ ).

**Conclusions:** Hyperuricemia is not a risk factor of hypertension occurred in general, but uric acid was significantly associated with systolic blood pressure without being associated with diastolic blood pressure. And serum uric acid is paradoxically lower in patients without diabetes and without metabolic syndrome.

### Biography

David Salama Kaishusha is currently working as a Medical Doctor in Internal medicine, Department of Cardiology at Provincial General Referral Hospital in Bukavu, DR Congo and also as an Assistant to the faculty of medicine at Catholic University of Bukavu. He completed his Diploma of medical doctor in general medicine, surgery and delivery in Catholic University of Bukavu. He has participated in international conferences and he is Supervisor of study in survey on non-communicable diseases in Bukavu.

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