

**Abstract Type : Oral**

**Abstract Submission No. : 1672**

**The Relationship Between Serum Creatinine and Plasma Malondialdehyde Levels on Rats (*Rattus norvegicus*) Induced by High Purine Diets After Intervention of Non-Decaffeinated Coffee and Decaffeinated Coffee**

**Alfian Novanda Yosanto**, Hilmi Ardian Sudairto  
Department of Physiology, Universitas Islam Indonesia, Indonesia

**Objectives:** Hyperuricemia will cause systemic oxidative stress and affect the kidney. Previous studies state that the good effect of coffee on hyperuricemia is not influenced by its caffeine content but the content of other active compounds. The purpose of this research is to determine the relationship between serum creatinine levels as a kidney function parameter and plasma malondialdehyde as an oxidative stress parameter on rats (*Rattus norvegicus*) induced by a high purine diet after intervention of non-decaffeinated coffee and decaffeinated coffee.

**Methods:** Rats were divided into four groups: normal (N), control (C), treatment 1 (T1), and treatment 2 (T2). Then all the rats except N group were induced beef broth as much as 700 mg / kgBW / day for thirty days, followed by giving non-decaffeinated coffee to T1 as much as 108 mg / 200 kgBW and the provision of decaffeinated coffee on T2 as much as 108 mg / 200 kgBW for thirty days. Serum creatinine levels and plasma MDA were examined after thirty days of intervention.

**Results:** The mean of serum creatinine (mg/dL) in N, C, T1, and T2 consecutively were  $0.75 \pm 0.02$ ,  $3.17 \pm 0.07$ ,  $1.63 \pm 0.11$ , and  $1.14 \pm 0.08$ . The mean of plasma MDA (mg/dL) N, C, T1, and T2 consecutively were  $1.20 \pm 0.22$ ,  $9.80 \pm 0.29$ ,  $5.80 \pm 0.55$ , and  $3.88 \pm 0.47$ . The result showed there is a very strong correlation between serum creatinine and plasma MDA with  $r = 0.97$  and significant difference with  $p = 0.00$ .

**Conclusions:** Serum creatinine levels and rat plasma malondialdehyde (*Rattus norvegicus*) induced by a high purine diet after intervention of non-decaffeinated coffee and decaffeinated coffee have a strong correlation with significant difference. Also, decaffeinated coffee can slightly reduce the serum creatinine and plasma MDA levels when compared to non-decaffeinated coffee

Figure 1. Clustered Bar Mean of Creatinin and plasma MDA