

OXIDATIVE STRESS, ANTI-OXIDANT ACTIVITY IN PATIENTS WITH GOUT AND WITH/WITHOUT CHRONIC KIDNEY DISEASE

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Objectives:

Oxidative stress is prevalent in many diseases and is considered to be an important pathogenic mechanism. Uric acid plays a special role in processes of oxidative stress, and the available evidence regarding the antioxidant role of uric acid. Gout is a common disorder characterized by chronic hyperuricemia and inflammation. 30-50% patients with gout have renal involvement. It is known as increase of products of oxidative stress among patients with chronic kidney disease (CKD). Taking it into account, exploration of oxidative stress is very important for patients with gout with or without CKD.

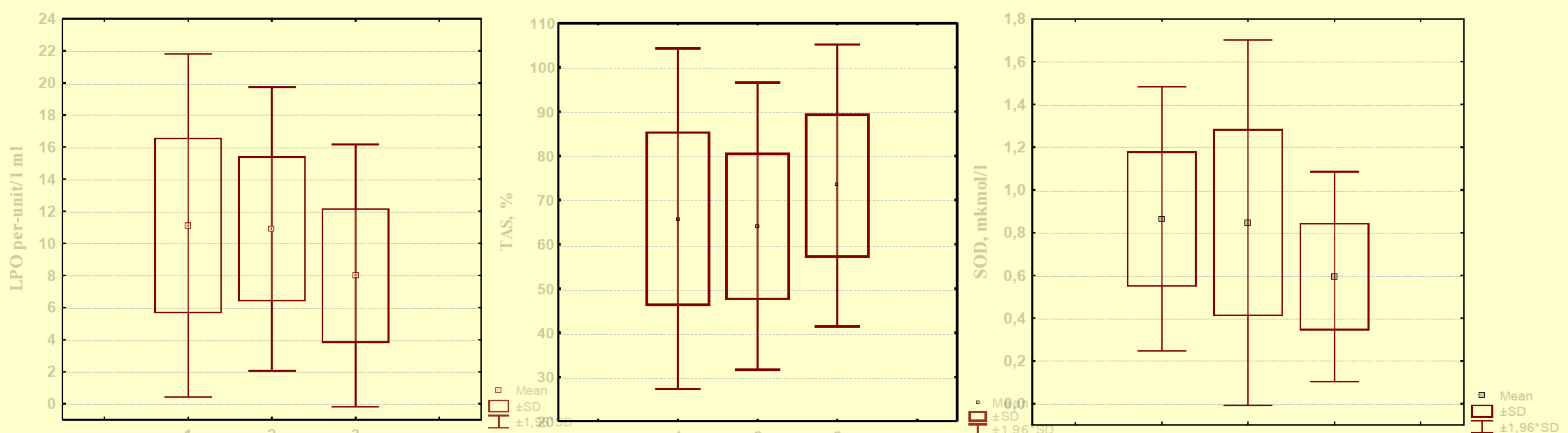
Methods:

We had compared products of oxidative stress in 19 healthy persons and 2 group of patients with primary gout (59 patients without CKD evidence and 22- with CKD 2-3 stage).

Levels of plasma and serum lipid peroxidation (LPO), malondialdehyde (MDA) were used as markers of oxidative stress. Superoxide dismutases (SOD), serum total antioxidant status (TAS) were used as markers of antioxidant activity.

Products of oxidative stress and antioxidant activity in patients and control group

Parameter	Gout without CKD	Gout with CKD	Control	H-test, p
LPO per-unit/1 ml	9,4 [7,7; 14,4]	10 [8,5; 11,7]	7,3 [5,7; 9,1]	0,004
TAS, %	73,1 [54,2; 80,2]	69,4 [53,8; 77,4]	80,7 [69,7; 83,3]	0,01
SOD, mkmol/l	0,9 [0,7; 1,2]	0,83 [0,75; 1,2]	0,65 [0,35; 0,82]	0,009



Results:

Kruscall-Wallis ANOVA test has showed significant difference of LPO, TAS, SOD between controls and patients. The MDA level in both groups of patients reliable didn't differ from group of control (gout without CKD- 4,3 [2,2; 5,6], gout with CKD - 3,6 [2,6; 6,2], control- 3,8 [2,6; 6,2] mkmol/l, p= 0,4).

In comparison to controls all patient groups had significant elevated LPO, p<0,01, reduced TAS, p<0,05 and elevated SOD, p<0,01. Distinctions between groups of patients were not revealed.

References:

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Conclusions:

In patients with gout, there is an increase of oxidative stress and antioxidant activity change. And it does not depend on the presence of CKD in patients.

