INTRODUCTION AND AIMS: Rheumatoid arthritis (RA) is associated with renal dysfunction and increased cardiovascular risk. Hypertension and endothelial dysfunction are considered as independent risk factors for the progression of CKD and CVD in pts with RA. The role of L-arginine in pts with RA remains uncertain and requires more study.

We aimed to evaluate the effect of L-arginine on blood pressure control and endothelial function in hypertensive pts with RA and renal dysfunction.

METHODS: 27 pts (mean age - 56.76 ± 5.64 years, 24 females, 3 males, GFR - 87.74 ± 3.19 l/min/1.73m²) with CKD stage 1-2 and not established CVD are enrolled. Diabetic patients were excluded. 14 (51.85 %) patients received the standard treatment and L-Arginine aspartate 30 ml/day during 4-6 weeks (study group), while 13 (48.15 %) (control group) - received only the standard treatment. The endothelial function was determined at baseline and after treatment using the Echo-Doppler to measure the flow-mediated dilation (FMD) in the brachial artery during reactive hyperemia.

RESULTS: After 4-6 weeks of treatment with L-Arginine endothelial-dependent flow mediated vasodilatation had been normalized in 8 pts (57.14%), compared with standard therapy - in 3 pts (23.08%, p <0.05). In general, the first group observed endothelial function improvement was to 58.8% (p <0.05) compared to the second group - 24.1% (p <0.05). The levels of mean arterial pressure at the end of the study has decreased by 35.8% among patients of study group and 28.7% among patients in control group (p <0.05).

CONCLUSIONS: L-Arginine is effective and safe for hypertensive patients with rheumatoid arthritis and renal dysfunction. Its administration may show positive effects on endothelial function and blood pressure control that provides benefits for this pts.