

STUDY OF ANTI-INFLAMMATORY PROPERTIES OF FATSIPHLOGIN® (HERBAL MEDICINE FROM FATSIA JAPONICA) AND A NEW PURIFIED FRACTION OF TERPENOIDS (PS-551) IN AN EXPERIMENTAL MODEL OF ARTHRITIS

Tsiklauri L.¹, Dráfi F.², Poništ S.^{2*}, Švík K.², Slovák L.², Kemoklidze Z.¹, Kemertelidze E.¹, Bauerová K.²

¹*Iovel Kutateladze Pharmacochimistry Institute (KPI), TSMU, P. Sarajshvilit 36, Tbilisi, Georgia*

²*Institute of Experimental Pharmacology and Toxicology, SAS, CEM, Dúbravská cesta 9, Bratislava, Slovakia; *e-mail: exfasipo@savba.sk*

In this study anti-inflammatory activity of orally administrated crude extract of Fatsiphlogin® and purified fraction of terpenoids were investigated. The crude extract of triterpene glycosides (FS), an active substance of original medicine and purified fraction of terpenoids (PS) were prepared in the laboratory of Terpene Compounds of KPI in Georgia. The effect of PS and/or FS with methotrexate (MTX) a standard anti-rheumatic drug was studied on the disease progression of adjuvant-induced arthritis (AA). The experimental AA was induced to male Lewis rats by using intradermal injection containing a suspension of heat-inactivated *Mycobacterium butyricum* in incomplete Freund's adjuvant. The 28 days experiment included nine groups: healthy animals, AA animals, AA animals administrated with PS and/or FS in oral daily dose of 5 or 50 mg/kg, AA animals administrated with MTX in oral dose of 0.3 mg/kg twice a week, and AA animals administered with combination of PS or FS in dose of 50 mg/kg and MTX in dose of 0.3 mg/kg twice a week. During the experiment hind paw volume (HPV) and body weight (BW) were monitored. Markers of inflammation were evaluated in plasma and in spleen and joint homogenate. PS administered in dose of 50 mg/kg showed decrease of HPV, activity of gamma-glutamyltransferase (GGT) by 17.19 % in joints, and interleukin-17A decreased significantly (– 64.26 %) in plasma comparing to lower dose of PS. This administration of higher dose of PS was substantially more effective in comparison with FS. However, FS improved the effect of MTX in combination, especially on HPV and BW parameters, further on GGT evaluated in the spleen and levels of plasmatic IL-17A. The present study suggests that PS has higher anti-inflammatory activity in AA comparing to FS. The novelty of this study was also in combination of FS and MTX, which had stronger anti-inflammatory efficacy than MTX alone. This study was supported by grants: VEGA 2/0044/15, APVV-15-0308 and SK-PT-18-0022.