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## ADJUVANT TREATMENT WITH POLYPHENOLS REDUCES OXIDATIVE STRESS PARAMETERS IN IMATINIB TREATED PATIENTS WITH CHRONIC MYELOID LEUKEMIA

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Imatinib, a tyrosine kinase inhibitor (TKI) is used as a standard treatment in chronic myeloid leukemia (CML) patients. Increased levels of BCR-ABL1 expression in CML cells are associated with oxidative stress induction due to overproduction of reactive oxygen species (ROS) or by deficient antioxidant system, disease progression, and imatinib resistance. Current scientific research confirms that oxidative stress is involved in CML pathogenesis and response to TKI treatment. Moreover, recent findings suggest that the antioxidant properties of some natural compounds can provide benefits to patients with CML. To determine the effect of adjuvant treatment with polyphenols on the oxidative stress markers in imatinib-treated CML patients. 40 CML patients at the University Clinic of Hematology, Skopje, who received imatinib longer than 1 month were included in the study. 20 patients were additionally treated with *Aronia melanocarpa* extract and 20 patients received only imatinib (control group). Besides the regular clinical laboratory analysis for these patients, total antioxidant power (PAT) and plasma peroxides (d-ROMs) were measured at initial visit and after 21 and 42 days of treatment using FRAS5 analytical photometric system and the oxidative stress index (OSI) was automatically calculated. Oxidative stress parameters (d-ROM and OSI) were significantly higher at initial visit in both groups. In group of patients who received adjuvant polyphenols values for d-ROM and OSI were significantly lower after 21 and 42 days of treatment ( $p < 0.05$ ). Also, total antioxidant capacity (PAT) was significantly higher after 21 and 42 days of treatment initiation in comparison with the pretreatment values. In the control group, no significant differences were obtained between investigated parameters at any time of measurement. Adjuvant treatment with *Aronia melanocarpa* extract after 21 and 42 days led to significant reduction of oxidative stress parameters in patients with CML treated with imatinib.