

Protective Effect of Green Tea (*Camellia sinensis* (L.) Kuntze) against Prostate Cancer: From in Vitro Data to Algerian Patients

Lassed S., Deus C., Djebbari R., Zama D., Oliveira P., Rizvanov A., Dahdouh A., Benayache F., Benayache S.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2017 Somia Lassed et al. Green tea (GT) has been studied for its effects as antioxidant and cancer-preventive agent. Epidemiological studies showed that GT consumption decreases the risk for prostate cancer (PC). To investigate whether erythrocyte oxidative stress (OS) is associated with PC and whether daily consumption of GT improves the oxidative phenotype, we performed a study in a group of Algerian PC patients, preceded by an in vitro study to characterize composition and antioxidant/antiproliferative activities of the GT used. This contained a high content of phenolic and flavonoid compounds, demonstrating in vitro antioxidant activity and significant antiproliferative effect on human prostate cancer PC-3 cell line. Seventy PC patients and 120 age-matched healthy subjects participated in the study, with glutathione (GSH), malondialdehyde (MDA), and catalase activity evaluated before and after GT consumption. The results showed a reduced GSH and catalase activity and a high level of MDA in erythrocytes from PC patients. The consumption of 2-3 cups per day of GT during 6 months significantly increased GSH concentration and catalase activity and decreased MDA concentration. In conclusion, GT significantly decreased OS in Algerian PC patients. Regular consumption of GT for a long period may prevent men from developing PC or at least delay its progression.

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