**A cup of green tea can solve many problems!**

Abstract: *Tea is the second most consumed beverage world-wide. Apart from its delicious taste, it has many benefits on human health. Recent study suggests green tea extracts as a useful therapy for patients with colorectal cancer.*

Green tea, and any other tea apart from the herbal one, is brewed from the dried leaves of the *Cammelia sinensis* bush. It originates from China, however, it is being grown and produced all over the world nowadays. Green tea is typically green, yellow or light brown in color, and its flavor can range depending on the cultivation practices and processing method.

This refreshing beverage has been used already thousands of years ago in traditional Chinese medicine to help people control bleeding, heal wounds, aid digestion or regulate body temperature. Later on, the western part of the world has also noticed the astonishing health benefits of drinking green tea on the human body.

What stands behind the medicinal properties of green tea? Most probably it is a mixture of many factors. However, it is believed that the most active compounds are catechins. Apart from green tea, catechins are also present in many plants, fruits, red wine, beer, cocoa and others. Vast majority of catechins in the green tea is represented by so called epigallocatechin gallate. This compound binds to various molecules inside a cell and this binding affects cellular behavior. For example, one suggested mechanism is that epigallocatechin gallate inhibits the growth of blood vessels and thus helps to starve cancer cells of oxygen and nutrients.

One of the first indication pointing at green tea as a potential cancer-fighting agent came from the population study during 20th century. It clearly showed lower incidence of prostate cancer in countries with high tea consumption, especially China and Japan. Since then, scientists all over the world investigate cancer preventing properties of green tea. Experiments in animal models gave very encouraging conclusions. However, the enthusiasm has been challenged by clinical trials which brought inconsistent results so far.

A recent clinical trial focused on the prevention properties of green tea in patients with colorectal carcinoma. The study includes one hundred seventy-six patients who had undergone complete removal of colorectal adenomas. After the surgery, patients were randomly divided into two groups. One group daily used green tea extracts, while the other group did not. Importantly, there was no significant difference between the groups in terms of age, gender, and body mass index. After the surgery, doctors monitored patients for a period of twelve months, assessing their diet every seventy-two hours, habitual green tea consumption and potential adverse effects.

After twelve months follow-up, doctors evaluated health conditions of patients, such as incidence of polyps (potential pre-cancerous lesions) by colonoscopy. Interestingly, “green tea extract users” had approximately twice less occurrence of compared to the “non-users”! All the other examined health conditions, such as body mass index, dietary intakes, levels of liver enzymes and others did not differ between the groups. This is a very promising result favoring green tea as a medical agent for patients with colorectal carcinoma.

Research on beneficial properties of green tea has recently slowed down. First of all, more efficient strategies, such as immunotherapy, are showing remarkable results, putting the natural products partially aside. Second important fact is the struggle for financing. Drug companies are not largely encouraged to invest in trials of a cheap and widely available products. Moreover, clear and definite prove of medicinal benefits of tea in humans is still missing. However, taking into account the complexity of human biology, it is not very surprising.

Taken all together, this study showed that long-term green tea extract supplementation might have positive effects as a follow-up treatment for patients with colorectal carcinoma. It is important to note, that natural products, such as green tea, have been the backbone of traditional system of healing and are still essential and serve as templates in modern drug discovery. Even though the scientific community still could not reach the definite conclusion about the medicinal properties of green tea, its health benefits are evident from many different studies.

Therefore, when you can, drink a cup of tea and relax. It makes a difference!