

Anticarcinogenic Effects of Cinnamon Extract

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Abstract

Cancer is one of the leading causes of death worldwide. In recent years, natural bioactive components draw a major attention for their potent anticarcinogenic activity. Different studies were demonstrated anticancer activity of cinnamon, one of the traditional spices. This review aims to provide a brief knowledge about anticancer activity of cinnamon.

Keywords: Cinnamon; Cancer; Cinnamic acid

Abbreviations: 5-FU: 5-Fluorouracil; OXA: Oxaliplatin

Editorial

Cinnamon or cinnamomum is derived from a Greek word means sweet wood, a genus of the *Lauraceae* family. It has been used as a spice and flavouring agents for centuries. Approximately 250 species of cinnamon has been identified to date and 4 of which are used to obtain the spice cinnamon. True or Ceylon Cinnamon (*Cinnamomum verum*) (syn *C. zeylanicum*) is a small evergreen tree native to Sri Lanka. Chinese cassia cinnamon (*Cinnamomum cassia*) is the other most widely available species [1,2]. Cinnamon contains volatile oils such as cinnamaldehyde, eugenol and cinnamic acid; phenolic compounds such as tannin, catechins, and proanthocyanidins; monoterpenes, sesquiterpenes; and trace coumarin [3]. Among these compounds,

cinnamaldehyde and cinnamic acid are found to be major compounds of cinnamon aqueous extract [4].

Cinnamon has been used in the treatment of arthritis, diarrhoea and menstrual irregularities in traditional medicine all over the world. Recently, traditional herbal folk medicines are getting popular in cancer treatment. It has been shown that cinnamon extract inhibits cervical, colon, melanoma, leukemia, lung and hematologic cancer cells *in vitro*, *in vivo* and epidemiological studies [5,6]. Kwon et al [7]. demonstrated that cinnamon extract suppresses tumor progression by modulating angiogenesis and the effector function of CD8+ T cells. Same group also reported that cinnamon extract showed its anticancer effects via the apoptosis induction and blockade of NF κ B and AP1 in mouse melanoma model [5]. Yu C [8] and colleagues indicated that cinnamaldehyde appears to be a promising candidate as an adjuvant in combination therapy with 5-fluorouracil (5-FU) and

oxaliplatin (OXA), in colorectal cancer treatment. They suggest that the possible mechanisms of its action may involve the regulation of drug-metabolizing genes [9,10].

In conclusion, we can say that anticancer effects of cinnamon extract can be seen against different cancer types. But further studies are required for the development and successful application of cinnamon extract on the treatment of diverse cancers.

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