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Coffee Consumption and Prostate, Colorectal and, Liver Cancer

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ABSTRACT

Introduction: Coffee belong to family Rubiaceae, indigenous to tropical Africa, and Madagascar, India. The purpose of this review article was to overview the relationship between Coffee consumption and prostate, colorectal and, liver cancer.

Methods: This review article was carried out by searching research in PubMed, Medline, Web of Science, and Iran Medex databases. The primary research strategy reported 99 references. In this study, 63 studies were accepted for further screening and met all our inclusion criteria [in English, full text, prostate, colorectal and, liver anti-cancer effects of blueberries and dated mainly from the year 2009 to 2016.The search terms were "Coffee", "prostate, colorectal and, liver anti-cancer effects", "pharmacological effects".

Result: although moderate coffee consumption is beneficial in treatment and prevention of many diseases, it was reported that long term coffee intake contributes to different kinds of cancer most notably prostate, colorectal and, liver cancer. While some studies reported that that coffee consumption increases the risk of colon cancer, some others suggested that coffee consumption decrease the risk of cancer. Besides, there are some studies reporting that there is no association between coffee intake and incidence of cancer.

Conclusion: the result of this study regarding to the association between coffee consumption and incidence of different kinds of cancer was quite varied. Coffee consumption increases the risk of colon cancer among men while it may be inversely associated with risk of colorectal cancer in a dose-response manner. Coffee intake is associated with reduced risk of liver and prostate cancers.

Keywords: Coffee, Phytochemicals, prostate, colorectal and, liver anti-cancer effects, Pharmacognosy, Alternative medicine.

INTRODUCTION

Herbal medicine is shown to contribute effectively in remedy and well-being of many diseases [1-24]. Coffee belong to family Rubiaceae [25]. Coffee is indigenous to tropical Africa, and Madagascar, India [26]. Coffee is somewhat acidic and its stimulating effect is due to its caffeine content [27].

It was indicated that moderate coffee intake is partly advantageous in healthy individuals [28], while chronic use is likely to avoid or lessen the risk of some types of cancer [29]. Results about its anti-cancer effect are contradictory [30,31]. Furthermore, data are intricate through variety in age, gender, health status, and dosage [32-34]. Lots of scientific research has been performed to investigate the relationship between coffee consumption and incidence of disease [35-37]. Some research suggests that a minimum of moderate continuous caffeine user encounter some amount of clinical depression, anxiety, low vigor, or tiredness when interrupting their caffeine use [38]. Withdrawal effects are more popular and observed in heavy caffeine users. Coffee caffeine may aggravate pre-existing conditions such as migraines, arrhythmias, and cause sleep disturbances [39-41]. Caffeine withdrawal from long-term consumption trigger physical dependence effect, comprising headaches, mood changes and the possibility of reduced cerebral blood flow [42]. The effects of coffee consumption on cancer risk remain dubious, with reviews and meta-analyses demonstrating either no relationship or a partly lower risk of carcinoma beginning [43-45].

RESULT

Liver cancer

Increasing document has shown that coffee intake is reversely associated to the risk of hepatocellular cancer. The results confirmed the reverse relationship between the coffee use and hepatocellular cancer risk [46]. A meta-analysis suggested that coffee intake is inversely connected with liver cancer risk [47].

The potent intervening roles of inflammatory biological markers on the relationship between intake of coffee and liver cancer-hepatocellular carcinoma [HCC] was evaluated. The result suggests that the inverse association of coffee drinking with HCC risk was partly explained through biological markers of inflammation and hepatocellular injury [48].

Coffee consumption has been reported to be inversely associated with hepatocellular carcinoma [HCC]. Caffeine has chemo preventive properties. These findings suggest that coffee consumption is associated with reduced risk of HCC in U.S [49].

The association of coffee intake with HCC and CLD was evaluated. The inverse associations were similar irrespective of the patients' ethnicity, gender, body mass index, smoking condition, alcohol consumption, or diabetic condition. Increased coffee consumption reduces the risk of HCC and CLD in several US ethnic groups [50]. Coffee intake is associated with reduced risk of liver cancer and chronic liver diseases. The findings suggest that coffee consumption probably is beneficial for the liver, regardless of boiled or filtered coffee [51].

Colorectal cancer

In a human study, the anti-colorectal cancer proliferation effect of coffee on human cells was investigated. The prevention of nuclear export by LMB lessened cyclin D1 degradation. Accordingly, kahweol-mediated cyclin D1 degradation likely cause to inhibit the proliferation of colorectal cancer cells [52].

The association of coffee consumption with colorectal cancer was investigated. The findings suggest coffee as a healthy drink for colorectal cancer prevention [53].

in a postmenopausal US women population, the association between coffee drinking and colorectal cancer incidence was examined. Coffee consumption may be inversely associated with risk of colorectal cancer in a dose-response manner. Global coffee consumption suggests potent advantage of the drink to attenuate the risk of colorectal cancer [54].

In meta-analysis, high consumption of coffee was not extremely associated with colorectal cancer risk among cohort studies, while it was significantly associated with lower risk of colorectal or colon cancer among case-control studies. The data was insufficient to confirm that coffee drinking increases or decreases the risk of colorectal cancer among the Japanese population [55].

Serum metabolites related to coffee intake was examined in relation to colorectal cancer. It showed that Serum metabolites can identify coffee drinkers from nondrinkers; some caffeine-related metabolites were inversely associated with colorectal cancer [56]. In a Japanese population, the relationship of coffee consumption with colorectal cancer incidence was examined. Coffee consumption in women was not associated with incident risk of colon cancer. It was not associated with rectal cancer incidence in men or women as well. The study showed that coffee intake raise the risk of colon carcinoma among Japanese male [57].

Associations of tea, coffee, and milk consumption with colorectal cancer risk was investigated. Consumption of herbal tea was associated with reduced risk of distal colon cancer, and consumption of iced coffee was associated with increased rectal cancer risk [58].

The association between coffee and tea consumption and CRC risk was investigated. Result suggests that caffeine metabolism does not affect the link between coffee and tea consumption and CRC risk. This study shows that coffee and tea drinking is not likely to be associated with overall CRC [59].

In another study, the findings did not support any evidence suggesting that drinking coffee or tea is beneficial in colorectal cancer prevention [60]. Results from the recent meta-analysis suggested a moderate favorable effect of coffee consumption on colorectal cancer risk, especially for colon cancer for patients consuming more than four cups of coffee per day [61].

Dietary effect of coffee on colorectal cancer [CRC] was investigated. Dietary behaviors should be considered in detecting individuals prone to the development of CRC [62]. Coffee and tea drinking [caffeinated and decaffeinated] in relation to colon [proximal and distal] and rectal cancers was evaluated. Coffee was inversely associated with colon cancer, particularly proximal tumors [63].

CONCLUSION

the result of this study regarding to the association between coffee consumption and incidence of different kinds of cancer was quite varied. Coffee consumption increases the risk of colon cancer among men while it may be inversely associated with risk of colorectal cancer in a dose-response manner. Coffee intake is associated with reduced risk of liver and prostate cancers.

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