

Grape Seed Shown Effective Against Bowel Cancer

Source: Reuters

Grape seed can aid in the effectiveness of chemotherapy's ability to kill colon cancer cells while also reducing chemotherapy's side effects.

In the study, published in the journal *PLoS ONE*, researchers conclude that grape seed extracts, combined with chemotherapy show promise for bowel cancer treatment, both in the reduction of intestinal damage and in enhancing its effectiveness.

Amy Cheah, lead author of the study, said that there is more and more evidence surrounding the antioxidant health benefits of grape seed tannins or polyphenols as anti-inflammatory agents and, more recently, for their anti-cancer properties.

"This is the first study showing that grape seed can enhance the potency of one of the major chemotherapy drugs in its action against colon cancer cells," said Cheah, a researcher in the School of Agriculture, Food and Wine.

"Our research also showed that in laboratory studies grape seed taken orally significantly reduced inflammation and tissue damage caused by chemotherapy in the small intestine, and had no harmful effects on non-cancerous cells. Unlike chemotherapy, grape seed appears to selectively act on cancer cells and leave healthy cells almost unaffected," she continued.

In the study, researchers used commercially available grape seed extract, which is a byproduct of wine making. They freeze-dried and powdered tannins extracted from the grape seed. This extract was used in a lab setting against colon cancer cells grown in a culture.

"The research showed grape seed extract: showed no side effects on the healthy intestine at concentrations of up to 1,000mg/kg; significantly decreased intestinal damage compared to the chemotherapy control; decreased chemotherapy-induced inflammation by up to 55 percent; increased growth-inhibitory effects of chemotherapy on colon cancer cells in culture by 26 percent," according to a press release announcing the findings.

"Our experimental studies have shown that grape seed extract reduced chemotherapy-induced inflammation and damage and helped protect healthy cells in the gastrointestinal tract," said

Cheah. "While this effect is very promising, we were initially concerned that grape seed could reduce the effectiveness of the chemotherapy."

"In contrast, we found that grape seed extract not only aided the ability of chemotherapy to kill cancer cells, but was also more potent than the chemotherapy we tested at one concentration," she concluded.

Co-author and project leader Gordon Howarth said, "Grape seed is showing great potential as an anti-inflammatory treatment for a range of bowel diseases and now as a possible anti-cancer treatment. These first anti-cancer results are from cell culture and the next step will be to investigate more widely."

"These findings could be a boost to the wine grape industry as it value adds to what is essentially a by-product of the winemaking process," co-author and joint-lead researcher Sue Bastian said.