

Mistletoe as treatment for colon cancer?

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Health Sciences student Zahra Lotfollahi with a sample of mistletoe extract at the University of Adelaide's Waite Campus. Credit: The University of Adelaide

(Medical Xpress)—Mistletoe has become an important symbol of Christmas but it also has the potential to play a vital role as an alternative therapy for Australian sufferers of colon cancer.

At the University of Adelaide, scientists are interested in how the extract of mistletoe could either assist [chemotherapy](#) or act as an alternative to chemotherapy as a treatment for [colon cancer](#).

Colon cancer is the second greatest cause of [cancer death](#) in the Western world. Mistletoe extract is already authorised for use by sufferers of colon cancer in Europe, but not in Australia due to a lack of scientific testing.

For her Honours research project recently completed at the University of Adelaide, Health Sciences student Zahra Lotfollahi compared the effectiveness of three different types of mistletoe extract and chemotherapy on colon cancer cells. She also compared the impact of mistletoe extract and chemotherapy on healthy [intestinal cells](#).

In her laboratory studies, she found that one of the mistletoe extracts - from a species known as Fraxini (which grows on [ash trees](#)) - was highly effective against colon cancer cells and was gentler on healthy intestinal cells compared with chemotherapy.

Significantly, Fraxini extract was found to be more potent against cancer cells than the chemotherapy drug.

"This is an important result because we know that chemotherapy is effective at killing healthy cells as well as cancer cells. This can result in severe side-effects for the patient, such as oral mucositis (ulcers in the mouth) and hair loss," Ms Lotfollahi says.

"Our laboratory studies have shown Fraxini mistletoe extract by itself to be highly effective at reducing the viability of [colon cancer cells](#). At certain concentrations, Fraxini also increased the potency of chemotherapy against the cancer cells.

"Of the three extracts tested, and compared with chemotherapy, Fraxini was the only one that showed a reduced impact on healthy intestinal cells. This might mean that Fraxini is a potential candidate for increased toxicity against cancer, while also reducing potential side effects.

However, more laboratory testing is needed to further validate this work," Ms Lotfollahi says.

"Mistletoe extract has been considered a viable [alternative therapy](#) overseas for many years, but it's important for us to understand the science behind it," says one of Ms Lotfollahi's supervisors, the University of Adelaide's Professor Gordon Howarth, a Cancer Council Senior Research Fellow.

"Although mistletoe grown on the ash tree was the most effective of the three extracts tested, there is a possibility that mistletoe grown on other, as yet untested, trees or plants could be even more effective.

"This is just the first important step in what we hope will lead to further research, and eventually clinical trials, of mistletoe extract in Australia," Professor Howarth says.

Provided by University of Adelaide

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