Medical Xpress

Red grape chemical may help prevent bowel cancer but less is more

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Resveratrol, a natural compound found in some plants and red wine, is widely consumed as supplements for its supposed health benefits. A new study in mice finds that low doses of resveratrol may be more effective than high doses in protecting against cancer. Credit: V. Altounian / Science Translational Medicine

Resveratrol, a chemical found in red grapes, is more effective in smaller doses at preventing bowel cancer in mice than high doses, according to new research published today in the journal *Science Translational Medicine*.

Previous research looked at high doses of purified resveratrol to study its potential to prevent cancer. This is the first study to look at the effects of a lower daily dose - equivalent to the amount of resveratrol found in one large (approx. 250ml) glass of red wine - comparing it with a dose 200 times higher.

Results from bowel cancer-prone mice given the smaller dose showed a 50 per cent reduction in tumour size while the high dose showed a 25 per cent reduction. Lower doses of resveratrol were twice as effective as the higher dose in stopping tumours growing, although this effect was only seen in animals fed a high-fat diet.

Samples of tumours from bowel cancer patients given different doses of resveratrol showed that even lower doses can get into cancer cells and potentially affect processes involved in tumour growth.

Resveratrol is a naturally-occurring chemical found in grape skins and other plants. Laboratory studies have suggested that it may have anti-cancer properties, although results from human trials have been mixed.

This study opens up new avenues for the role of purified resveratrol in preventing cancer, but suggests that it may only be effective for people with a specific genetic make-up, particular diets and lifestyles.

And it doesn't mean drinking red wine reduces cancer risk, as drinking alcohol increase the chances of developing the disease.

Karen Brown, professor of translational cancer research at the University

of Leicester, said: "For the first time, we're seeing that less resveratrol is more. This study shows that low amounts may be better at preventing tumours than taking a high dose.

"The same might be true for other plant-derived chemicals and vitamins that are also being studied for cancer prevention. There should be more research looking at the effects of low doses. But this is early laboratory research and the next stage is for clinical trials to confirm whether resveratrol has the same effects in people at high risk of bowel cancer."

Dr Julie Sharp, Cancer Research UK's head of health information, said: "This research doesn't mean that having a glass of red wine will reduce your risk of cancer because you can't separate the resveratrol from the alcohol. And the increase in cancer risk linked to alcohol outweighs any possible benefits of the resveratrol.

"It's a fascinating study but we need much more research to understand all the pros and cons of someone taking resveratrol to prevent bowel cancer. However, we do know that keeping a healthy weight along with a balanced diet low in red and processed meat with lots of fibre including fruit and vegetables can stack the odds in your favour to lower your risk of developing the disease."

More information: Cancer chemoprevention: Evidence of a nonlinear dose response for the protective effects of resveratrol in humans and mice stm.sciencemag.org/lookup/doi/ … scitranslmed.aaa7619

Provided by Cancer Research UK