

Cancer 'smart bomb' created from a crocus

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Colchicum autumnale autumn crocus. Image: Luc Viatour/ Wikipedia.

(PhysOrg.com) -- Scientists from the UK have figured out a way to turn chemicals found in the crocus flower which blooms throughout the UK into a 'smart bomb' of sorts when it comes to a new cancer medication. This new treatment may potentially create a drug that is capable of targeting cancerous tumors, such as associated with breast, colon, lung and prostate, without causing any side effects.

The researchers, from the Institute for Cancer Therapeutics at the University of Bradford, have published their work in *Cancer Research* and had it showcased at the recent British Science Festival.

While the native British Autumn crocus has been known for a long time for its anti-inflammatory and anti-cancer properties, its [chemical](#) colchicine is unfortunately also toxic to other cells within the human body. For this reason, the use of the crocus and the chemical colchicine has not been used for medical treatments.

The researchers, led by Professor Laurence Patterson, have found a way around the toxic nature of the chemical when it comes to healthy tissue in the body and determined a way to focus the toxicity towards the cancerous tumor. By attaching a chemical 'tail' to the colchicine molecule, the researchers have been able to deactivate the toxic properties until it reaches the targeted cancer. Cancer tumors contain an enzyme called MMP and this enzyme effectively removes the 'tail' and activates the colchicine. Once activated, the colchicine goes into action breaking up the blood vessels that feed the tumor and essentially starve it. Because the drug is activated in the tumor, it does not affect outside tissue and no side effects have been noted.

At this time, tests have only been conducted on mice but the results have been remarkable. In mice testing, all mice have responded to the treatment and in as many as half of the studies, the mice appeared cured of the [cancer](#). The drug is effective toward cancers that produce tumors and the researchers have tested breast, colon, lung, prostate and sarcoma tumors at this point.

Clinical trials on human patients are expected to begin in as soon as 18 months and will be conducted at St. James's University Hospital. The researchers hope that if the clinical trials prove successful, a new drug could be available within the next six to seven years.

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