

How a common antacid could lead to cheaper anti-cancer drugs

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A popular indigestion medication can increase survival in colorectal cancer, according to research published in *ecancermedicalscience*. But in fact, scientists have studied this for years - and a group of cancer advocates want to know why this research isn't more widely used.

"Cimetidine is an interesting drug as it's very safe, very well-known, and has clinical results in [cancer](#) that have been confirmed in a number of trials," says Pan Pantziarka, lead author of the paper and member of the Repurposing Drugs in Oncology (ReDO) project.

Cimetidine treats indigestion by blocking histamine receptors in the gut, which decreases the production of gastric acid. It also appears to block histamine receptors in [cancer cells](#), as well as supporting the immune system's defences against cancer.

Cimetidine has been shown to have positive effects in colorectal and [gastric cancer](#), melanoma, and [renal cell carcinoma](#).

"Cimetidine is one of the most interesting examples of repurposed drugs in oncology - a drug with an extensive history of pre-clinical and clinical evidence of efficacy in a range of different cancers and with multiple mechanisms of action at work," says Pantziarka.

Raising awareness of untapped medicines

An international collaboration between anticancer researchers from across the world, the ReDO project is dedicated to promoting the cause of common medicines which may represent an untapped source of novel therapies for cancer.

In a previous paper published in *ecancermedicalscience*, the ReDO researchers examined the anti-cancer properties of the drug mebendazole, an over-the-counter treatment

currently used for threadworm.

Now, working in partnership with *ecancer*, the ReDO project is publishing a series of papers on drugs with enough evidence to be taken to clinical trials. Future papers will address the potential anti-cancer uses of nitroglycerin (used to treat angina), itraconazole (a common anti-fungal), diclofenac (an over-the-counter painkiller), and clarithromycin (an antibiotic).

"Such promising therapies are often ignored since pharmaceutical companies lack financial incentives to develop them further via proper [clinical trials](#)," says Gauthier Bouche, medical director of Anticancer Fund. "The ReDO project was established to find and document such opportunities."

A cheaper solution to the cancer crisis

Repurposed [anticancer drugs](#) such as aspirin and antacids may represent the future of cancer drug research, according to leaders of the ReDO project.

Cheap, accessible, and with few side-effects, these solutions are very attractive to healthcare professionals in low- and middle-income countries. Repurposed drugs could also reduce the financial burden of cancer in developed countries.

"Cimetidine is a drug that can meet patient needs now - so we need to ask ourselves: what's stopping it being used?" asks Pantziarka.

More information: ecancer.org/journal/8/485.php

Provided by *ecancermedicalscience*

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