

Protein levels could predict if bowel cancer patients will benefit from Avastin

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Comparing levels of specific proteins that the drug Avastin targets could identify patients with advanced bowel cancer who will benefit from the treatment, according to research published in *Clinical Cancer Research*.

[Avastin](#), or [Bevacizumab](#), has been shown to increase survival from bowel cancer in around ten to 15 per cent of patients, but it has been impossible to predict who will benefit.

Avastin works by targeting and blocking the VEGF-A [protein](#), two major forms of which are VEGF165 and VEGF165b.

VEGF165 helps cancers to grow new [blood vessels](#), so they can get food and oxygen from the blood - all cancers need a blood supply to be able to survive and grow. Its sister protein, VEGF165b, has the opposite effect and acts as a brake on this growth.

Cancer Research UK funded scientists at the University of Bristol looked at the effect Avastin had on patients with different levels of VEGF165b and compared this with patients who were not given the drug at all.

Those with low levels of VEGF165b survived three months longer without the disease progressing compared to patients not treated with Avastin. But patients with higher levels of the protein saw no benefit from Avastin and survived no longer than as those who were not given the drug.

Avastin blocks both forms of VEGF-A, so in patients with lower levels of VEGF165b more Avastin may be available to block the blood vessel promoting protein VEGF165, eventually starving the cancer.

Professor David Bates, lead researcher from the University of Bristol's School of Physiology and [Pharmacology](#), said: "Avastin has shown great potential for a minority of people with bowel cancer, but it's been impossible to predict who will benefit from the drug. Currently, Avastin is not approved by NICE for patients with advanced bowel cancer because they feel that the benefit to an unknown minority of patients does not justify the cost of treatment.

"We now need to look at cancer samples from a larger group of patients about to start taking Avastin and determine if the amount of VEGF165b can accurately identify those patients that will benefit and so potentially open a new treatment option for some people with advanced bowel cancer."

[Bowel cancer](#) is the third most common cancer in the UK with around 41,000 people diagnosed each year. Survival rates have doubled over the last 40 years but 16,000 people still die from the disease.

Dr Julie Sharp, senior science information manager at Cancer Research UK, said: "New targeted treatments can be hugely beneficial for certain patients, depending on the characteristics of their tumour. But, we don't always know who these patients are. This work takes researchers a step closer to developing a suitable test so doctors can give Avastin to those people it will really make a difference to."

Provided by University of Bristol

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