

Cannabis may block growth of brain cancer  
By James Hamilton

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**Cannabis chemicals** may provide a new way of treating deadly brain cancer.

Scientists have shown that cannabinoids – the chemicals responsible for the drug’s “high” – deter the growth of blood vessels which feed the tumour.

They appear to prevent genes making a protein called VEGF (vascular endothelial growth factor) that stimulates the sprouting of blood vessels.

Cutting off tumours’ blood supply is one of the latest anti-cancer strategies being explored by scientists. In studies cannabinoids significantly reduced the activity of VEGF in laboratory mice.

They also lowered VEGF levels in tumour tissue samples taken from two patients with glioblastoma multiforme, the most lethal brain tumour type.

About 4400 new cases of brain tumour are diagnosed in the UK each year. A small percentage of these are grade four gliomas, the most aggressive and dangerous brain tumours.

Only about 6% of people diagnosed with these high- grade cancers live for more than three years. The disease is normally treated with surgery, followed by radiotherapy and possibly chemotherapy. But the main tumour often evades complete destruction and grows again to kill the patient.

Cannabinoids had previously been shown to inhibit the growth of blood vessels in mice. But the mechanism involved remained a mystery and it was not known if the same effect occurred in humans.

In the new Spanish-led study, cannabinoids were injected into mice with gliomas. DNA analysis was then carried out on 267 genes associated with the growth of tumour blood vessels. It showed that the cannabis compounds reduced the activity of several genes involved in VEGF production.

Professor Manuel Guzman, from Complutense University in Madrid, said: “In both patients, VEGF levels in tumour extracts were lower after cannabinoid inoculation.”

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