¿Puede el cannabis curar el cáncer?

Fernando Caudevilla

Médico de FamiliaSpannabis, 2014

¿De qué vamos a hablar?

- ¿Qué es el cáncer?
- Sistema Cannabinoide Endógeno, cannabis y cáncer
- El Cannabis en el manejo de los síntomas del cáncer
- El Cannabis en el tratamiento del cáncer

¿Qué es el cáncer?

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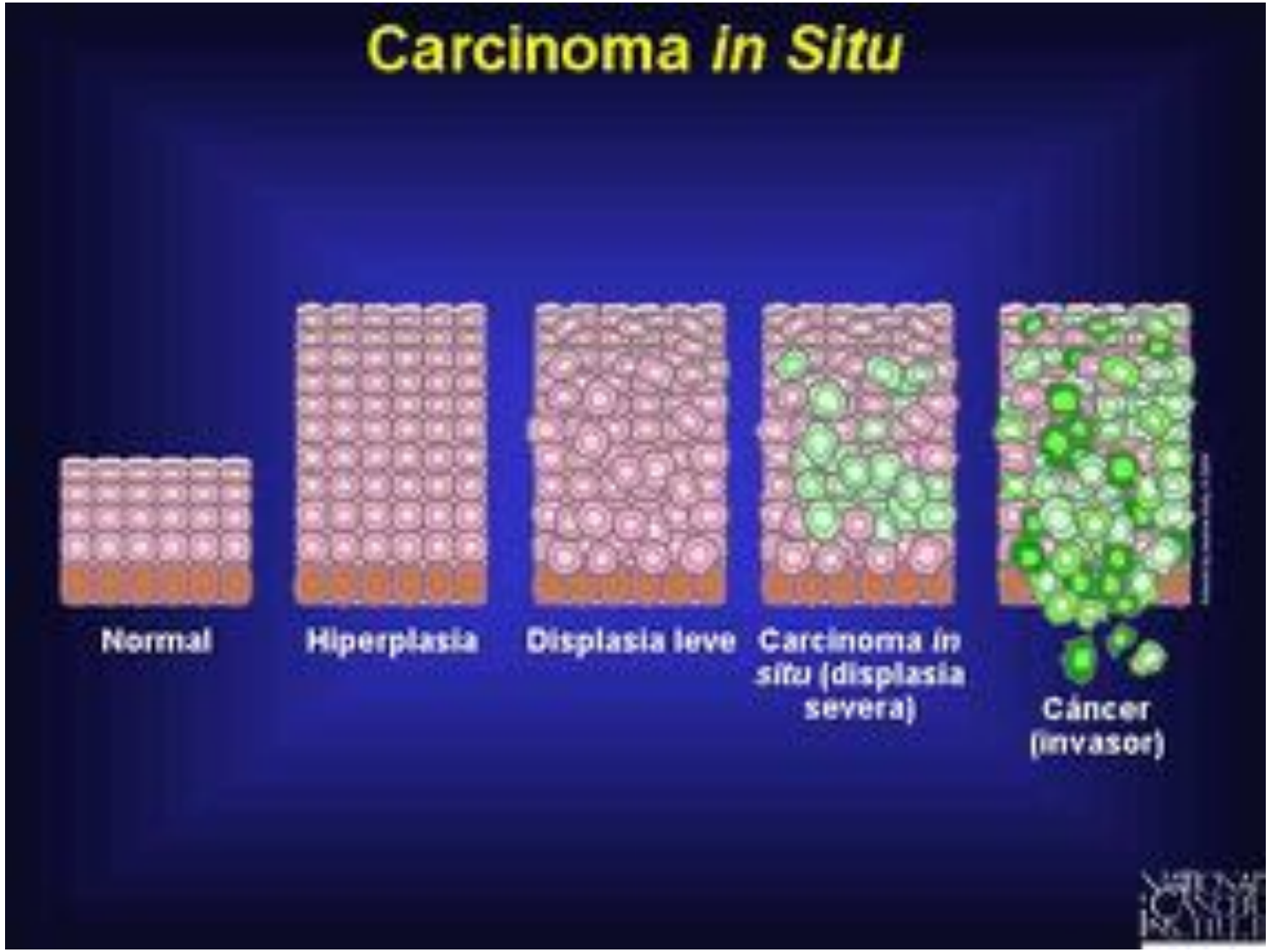
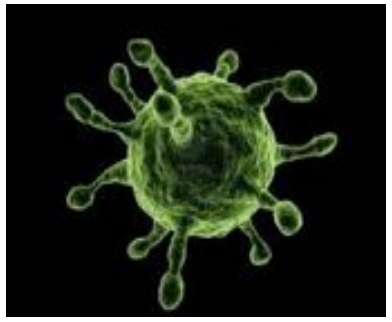


¿Cuáles son las causas del cáncer?



Tipos de cáncer

- Existen más de 150 tipos de tumores diferentes

Pronóstico y tratamiento

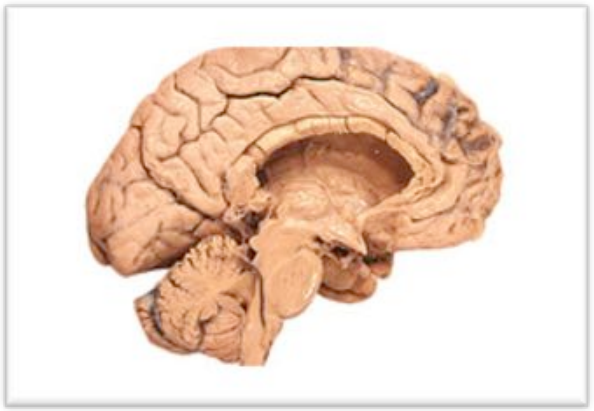
- El pronóstico depende del:
  - Estadio del tumor (TNM)
  - Tipo de tumor concreto
  - Características del paciente
- El tratamiento puede ser:
  - Cirugía
  - Quimioterapia
  - Radioterapia
  - Hormonoterapia
  - Vacunación

Pronóstico y tratamiento

Supervivencia media a los 5 años	
Cáncer de colon y recto	53%
Cáncer de pulmón	10%
Melanoma	85%
Cáncer de mama	79%
Cáncer de ovario	34%
Cáncer de próstata	74%
Cáncer de testículo	96%
Enfermedad de Hodgkin	80%
Cáncer de páncreas	5%

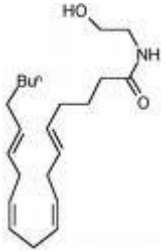
Cannabis y cáncer

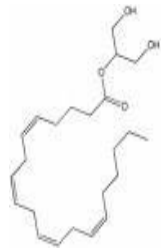
Cannabis y cáncer : Sistema Cannabinoide Endógeno



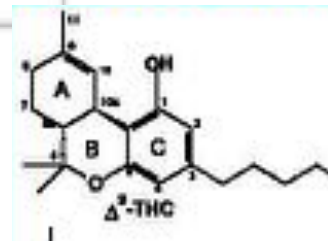
- Receptores :
  - CB1: Sistema nervioso central, corazón, testículo y retina
  - CB2: Sistema inmune

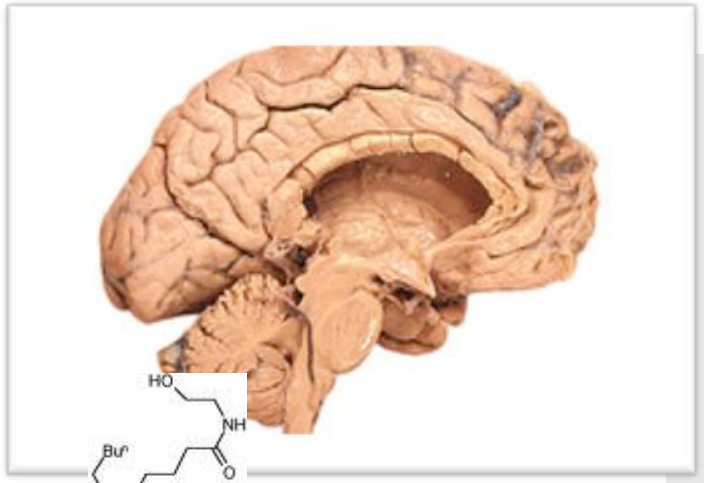
- Cannabinoides endógenos:
  - Anandamida (1992)
  - 2-araquidonil glicerol (1994)

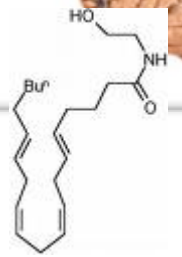




Cannabis y cáncer : Sistema Cannabinoide Endógeno







Cannabinoides naturales:
Delta-9

Cannabinoides endógenos:
Anandamida
2-araquidonil glicerol

Cannabis y cáncer : Sistema Cannabinoide Endógeno

CB1: Sistema nervioso central

Control del movimiento
Control de TA y FC
Percepción del dolor
Efectos psicoactivos
Efectos sobre centro del vómito

CB2: Sistema inmunológico

Efectos inmunomoduladores

Cannabis y cáncer

Uso del cannabis y cannabinoides en el tratamiento de los síntomas del cáncer

Uso del cannabis y cannabinoides en el tratamiento del cáncer como enfermedad

Cannabis y cáncer

Uso del cannabis y cannabinoides en el tratamiento de los síntomas del cáncer

Dolor
Pérdida de apetito
Náuseas y vómitos provocados por la enfermedad
Náuseas y vómitos provocados por la quimioterapia
Cansancio
Pérdida de peso
Síntomas psicológicos

Cannabis y cáncer

Uso del cannabis y cannabinoides en el tratamiento de los síntomas del cáncer

Dolor
Pérdida de apetito
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Náuseas y vómitos provocados por la quimioterapia
Cansancio
Pérdida de peso
Síntomas psicológicos

Existen SUFICIENTES PRUEBAS CIENTÍFICAS sobre la eficacia de los cannabinoides en el control de estos síntomas

- El control de nauseas y vómitos asociados a quimioterapia está avalado por dos metaanálisis (Tramer et al, 2001; Machado Rocha et al, 2008) y ensayos clínicos comparando con nuevos fármacos.(Meiri et al, 2007)
- Potencia el efecto analgésico de los opiáceos.(Narang et al, 2007)
- Incremento de apetito y ganancia de peso(Gorter, 1999)
- Efectos positivos sobre el insomnio y el humor (Walsh, 2003)

Tramer MR, Carroll D, Campbell FA, Reynolds DJ, Moore RA et al Cannabinoids for control of chemotherapy induced nausea and vomiting: quantitative systematic review. BMJ. 2001 Jul 7;323(7303):16-21.
Machado Rocha FC, Stéfano SC, De Cássia Haiek R, Rosa Oliveira LM, Da Silveira DXTherapeutic use of Cannabis sativa on chemotherapy-induced nausea and vomiting among cancer patients: systematic review and meta-analysis. Eur J Cancer Care (Engl). 2008 ;17:431-43.
Meiri E, Jhangiani H, Vredenburgh JJ, Barbato LM, Carter FJ, Yang HM et al. Efficacy of dronabinol alone and in combination with ondansetron versus ondansetron alone for delayed chemotherapy-induced nausea and vomiting. Curr Med Res Opin 2007;23(3):533-43.
Gorter RW. Cancer cachexia and cannabinoids. Forsch Komplementarmed. 1999 Oct;6 Suppl 3:21-2.
Walsh D, Nelson KA, Mahmoud FA. Established and potential therapeutic applications of cannabinoids in oncology. Support Care Cancer. 2003 Mar;11(3):137-43. E 2002

Uso del cannabis y cannabinoides en el tratamiento del cáncer como enfermedad

Sistema inmunológico

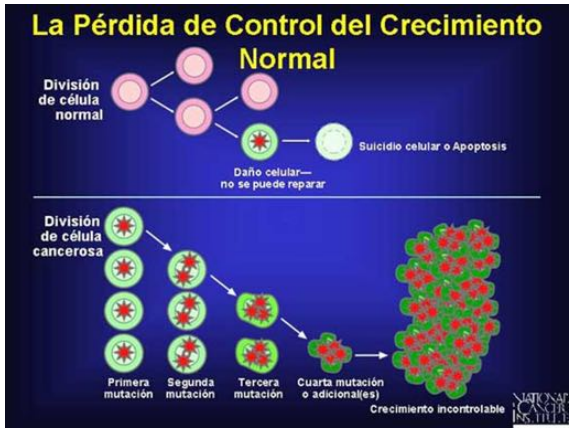


Table 1 A selection of cannabinoid receptor ligands and their specificities

Ligand	Source	Action	Specificity	K_i CB_1 (nM)	K_i CB_2 (nM)
Δ⁹-THC	Plant-derived	Nonspecific agonist	$CB_1 > CB_2$	5–80	3–75
Cannabidiol	Plant-derived	Low-to-no receptor affinity			
Anandamide (AEA)	Endogenous	Nonspecific agonist	$CB_1 \approx CB_2$	61–543	279–1,940
2-arachidonoylglycerol (2-AG)	Endogenous	Nonspecific agonist	$CB_1 > CB_2$	58–472	145–1,400
R-(+)-Met-anandamide	Synthetic	Nonspecific agonist	$CB_1 \approx CB_2$	18–28	815–868
WIN-55,212-2	Synthetic	Nonspecific agonist	$CB_1 = CB_2$	2–123	0.3–16
HU-210	Synthetic	Nonspecific agonist	$CB_1 = CB_2$	0.06–0.7	0.2–0.52
JWH-133	Synthetic	Selective agonist	CB_2	677	3.4
SR141716	Synthetic	Selective antagonist	CB_1	1.8	514
SR144528	Synthetic	Selective antagonist	CB_2	50–10,000	0.3–6

Notes: K_i values are reported based on reported values for the in vitro displacement of [³H]CP 55,940 (CB_1)- or [³H]HU 243 (CB_2)-binding sites.

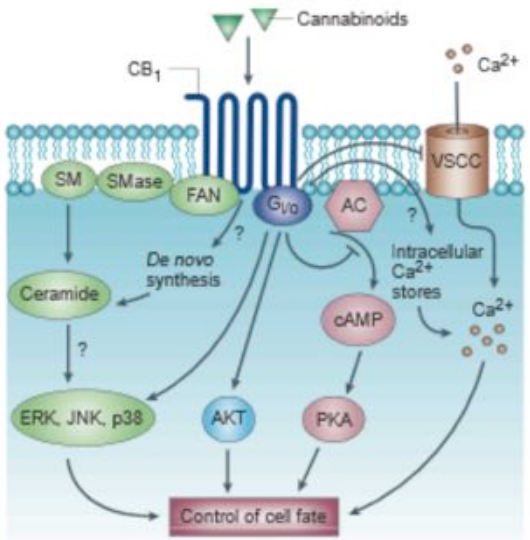
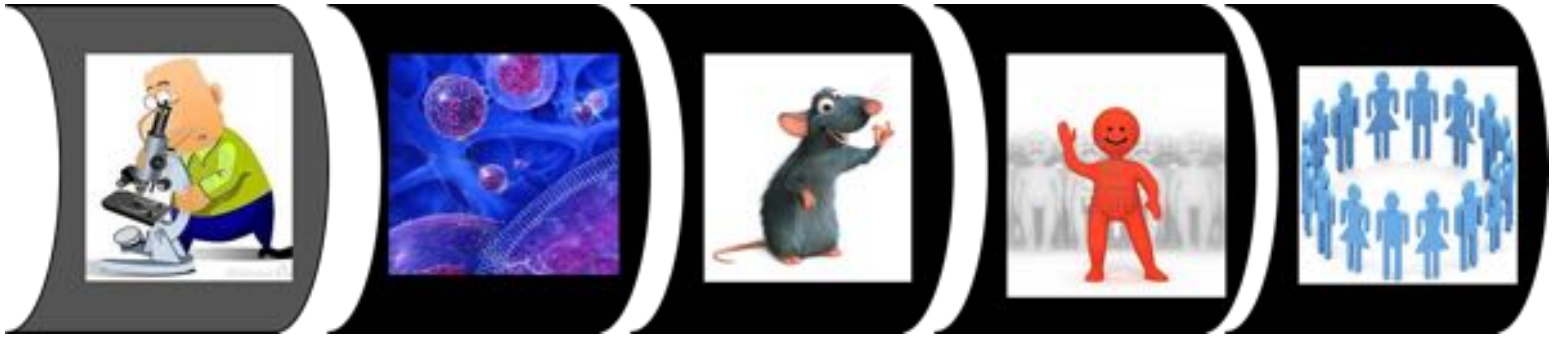


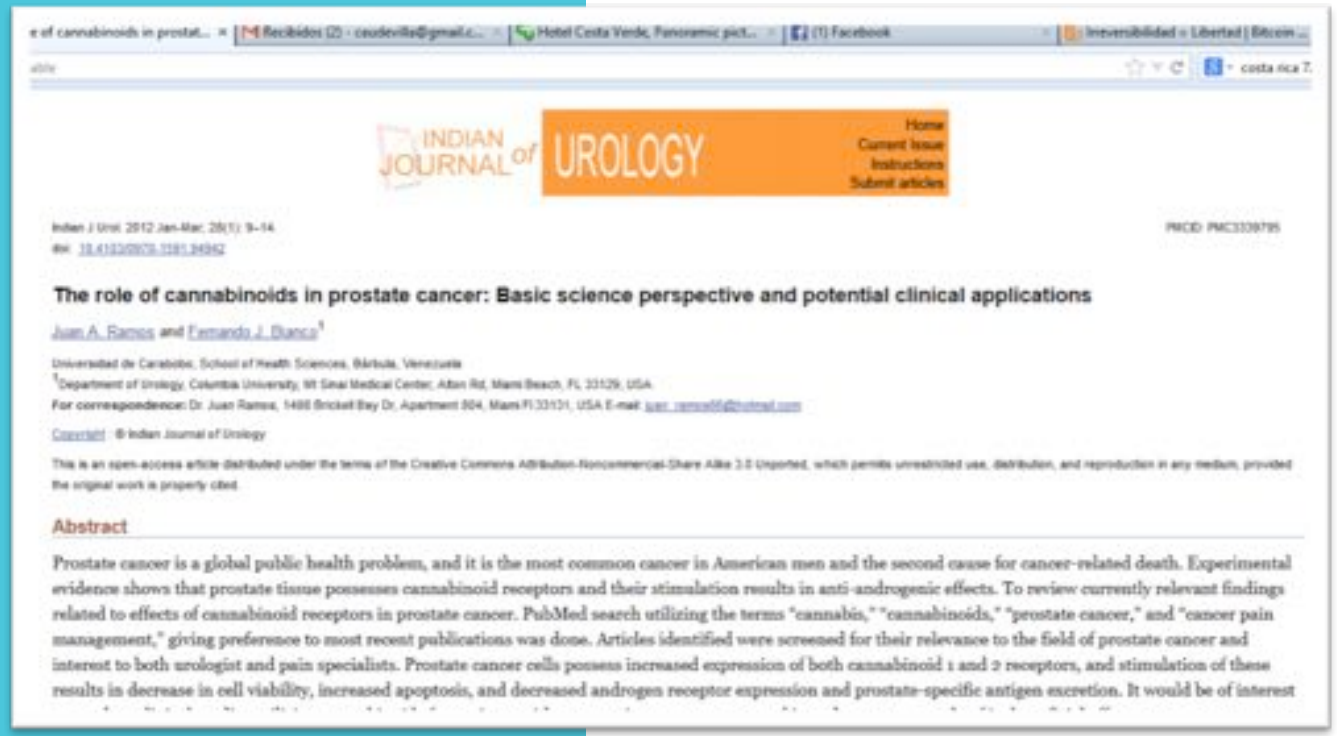
Figure 1 | **Signalling pathways involved in the control of cell fate by cannabinoids.** Cannabinoids exert their effects by binding to specific G-protein–coupled receptors. The cannabinoid receptor CB_1 signals several different cellular pathways. These include inhibition of the adenylyl cyclase (AC)–cyclic AMP–protein kinase A (PKA) pathway; modulation of

Table 2 | **Tumours that are sensitive to cannabinoid-induced growth inhibition**

Tumour type	Experimental system	Effect	Receptor	References
Lung carcinoma	*In vivo* (mouse); *in vitro*	Decreased tumour size; cell-growth inhibition	N.D.	29
Glioma	*In vivo* (mouse, rat); *in vitro*	Decreased tumour size; apoptosis	CB_1, CB_2	50,51,53,85
Thyroid epithelioma	*In vivo* (mouse); *in vitro*	Decreased tumour size; cell-cycle arrest	CB_1	60
Lymphoma/leukaemia	*In vivo* (mouse); *in vitro*	Decreased tumour size; apoptosis	CB_2	96
Skin carcinoma	*In vivo* (mouse); *in vitro*	Decreased tumour size; apoptosis	CB_1, CB_2	61
Uterus carcinoma	*In vitro*	Cell-growth inhibition	N.D.	97,98
Breast carcinoma	*In vitro*	Cell-cycle arrest	CB_1	57–59
Prostate carcinoma	*In vitro*	Apoptosis	CB_1?	54,59,99
Neuroblastoma	*In vitro*	Apoptosis	VR_1	51,73

N.D., not determined; VR, type 1 vanilloid receptor





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PMCID: PMC3339795

The role of cannabinoids in prostate cancer: Basic science perspective and potential clinical applications

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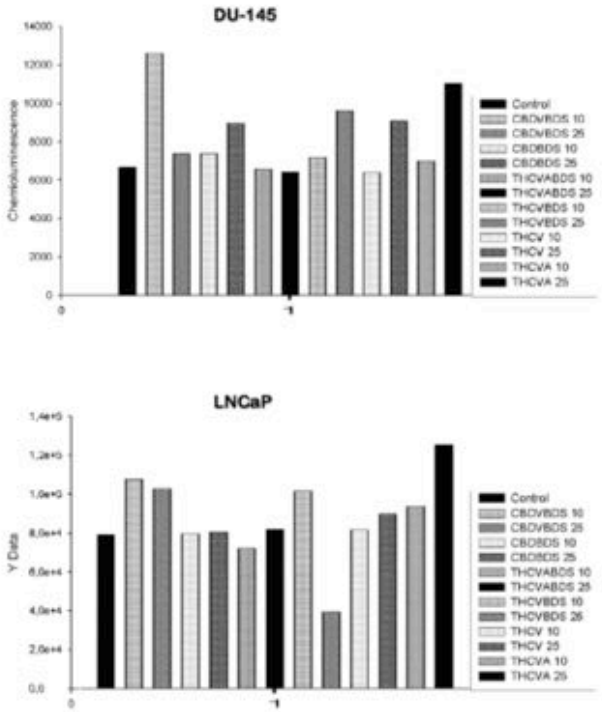
Abstract

Prostate cancer is a global public health problem, and it is the most common cancer in American men and the second cause for cancer-related death. Experimental evidence shows that prostate tissue possesses cannabinoid receptors and their stimulation results in anti-androgenic effects. To review currently relevant findings related to effects of cannabinoid receptors in prostate cancer. PubMed search utilizing the terms "cannabis," "cannabinoids," "prostate cancer," and "cancer pain management," giving preference to most recent publications was done. Articles identified were screened for their relevance to the field of prostate cancer and interest to both urologist and pain specialists. Prostate cancer cells possess increased expression of both cannabinoid 1 and 2 receptors, and stimulation of these results in decrease in cell viability, increased apoptosis, and decreased androgen receptor expression and prostate-specific antigen excretion. It would be of interest

Figure 2: Effect of cannabinoids on apoptosis in hormone-insensitive prostate cancer cell line (DU-145) and hormone-sensitive prostate cancer cell line (LNCaP)



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Br J Cancer. 2006 Jul 17;95(2):197-203. Epub 2006 Jun 27.

A pilot clinical study of Delta9-tetrahydrocannabinol in patients with recurrent glioblastoma multiforme.

Guzmán M, Duarte MJ, Blázquez C, Ravina J, Rosa MC, Galve-Roperh I, Sánchez C, Velasco G, González-Feria L.

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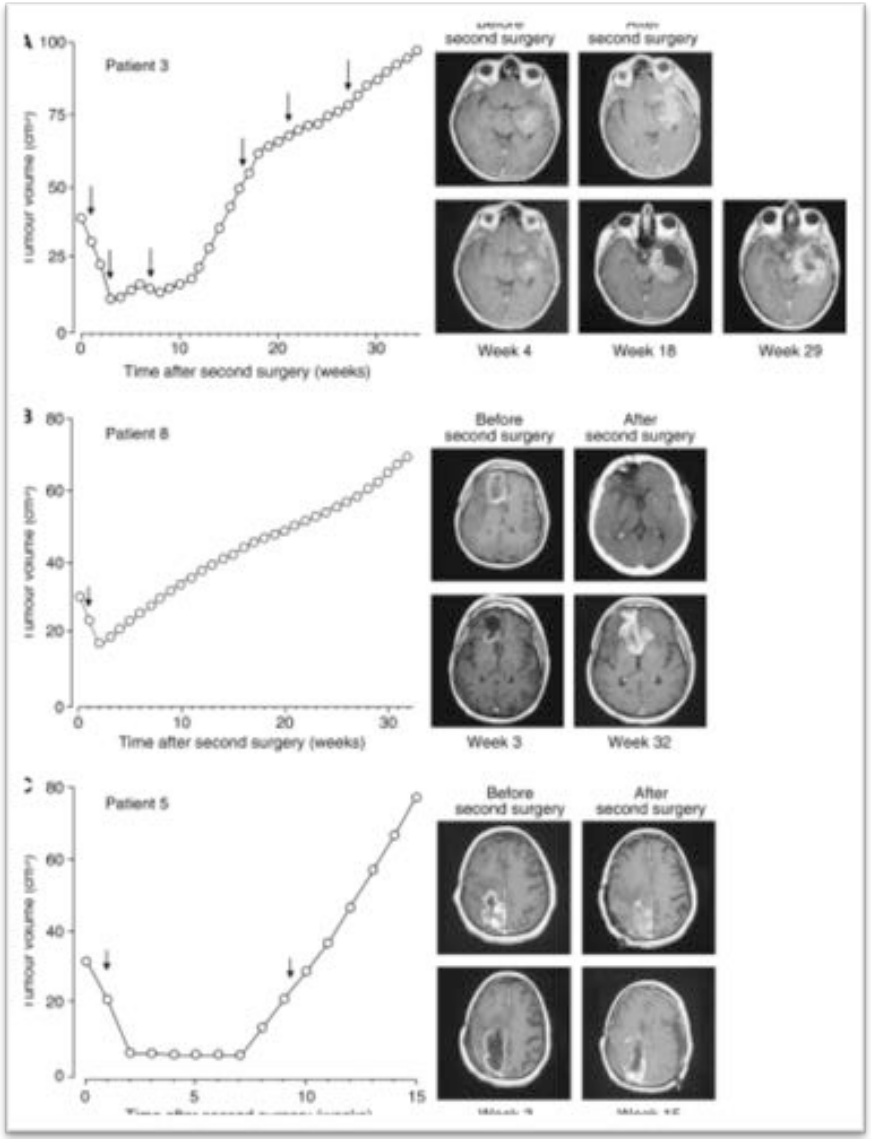
Abstract

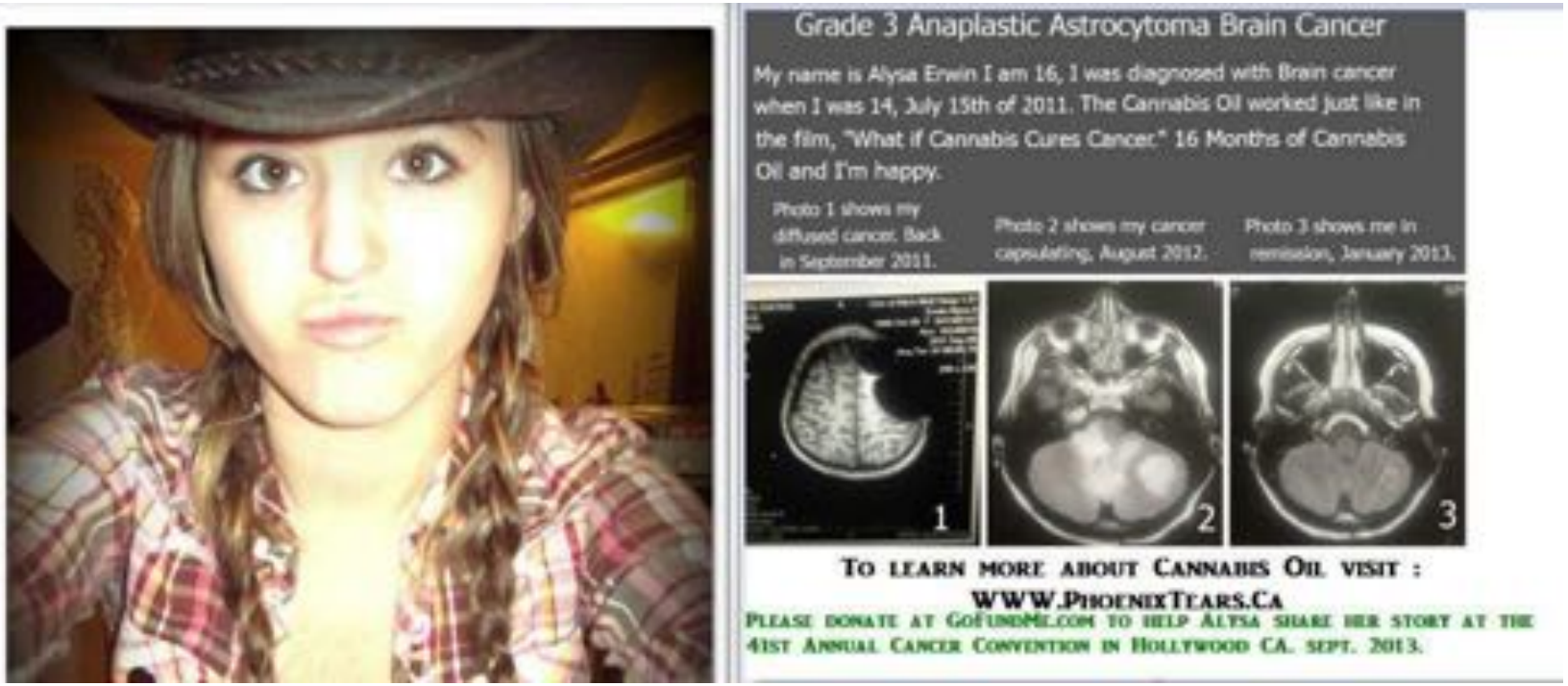
Delta(9)-Tetrahydrocannabinol (THC) and other cannabinoids inhibit tumour growth and angiogenesis in animal models, so their potential application as antitumoral drugs has been suggested. However, the antitumoral effect of cannabinoids has never been tested in humans. Here we report the first clinical study aimed at assessing cannabinoid antitumoral action, specifically a pilot phase I trial in which nine patients with recurrent glioblastoma multiforme were administered THC intratumoraly. The patients had previously failed standard therapy (surgery and radiotherapy) and had clear evidence of tumour progression. The primary end point of the study was to determine the safety of intracranial THC administration. We also evaluated THC action on the length of survival and various tumour-cell parameters. A dose escalation regimen for THC administration was assessed. Cannabinoid delivery was safe and could be achieved without overt psychoactive effects. Median survival of the cohort from the beginning of cannabinoid administration was 24 weeks (95% confidence interval: 15-33). Delta(9)-Tetrahydrocannabinol inhibited tumour-cell proliferation in vitro an decreased tumour-cell Ki67 immunostaining when administered to two patients. The fair safety profile of THC, together with its possible antiproliferative action on tumour cells reported here and in other studies, may set the basis for future trials aimed at evaluating the potential antitumoral activity of cannabinoids.

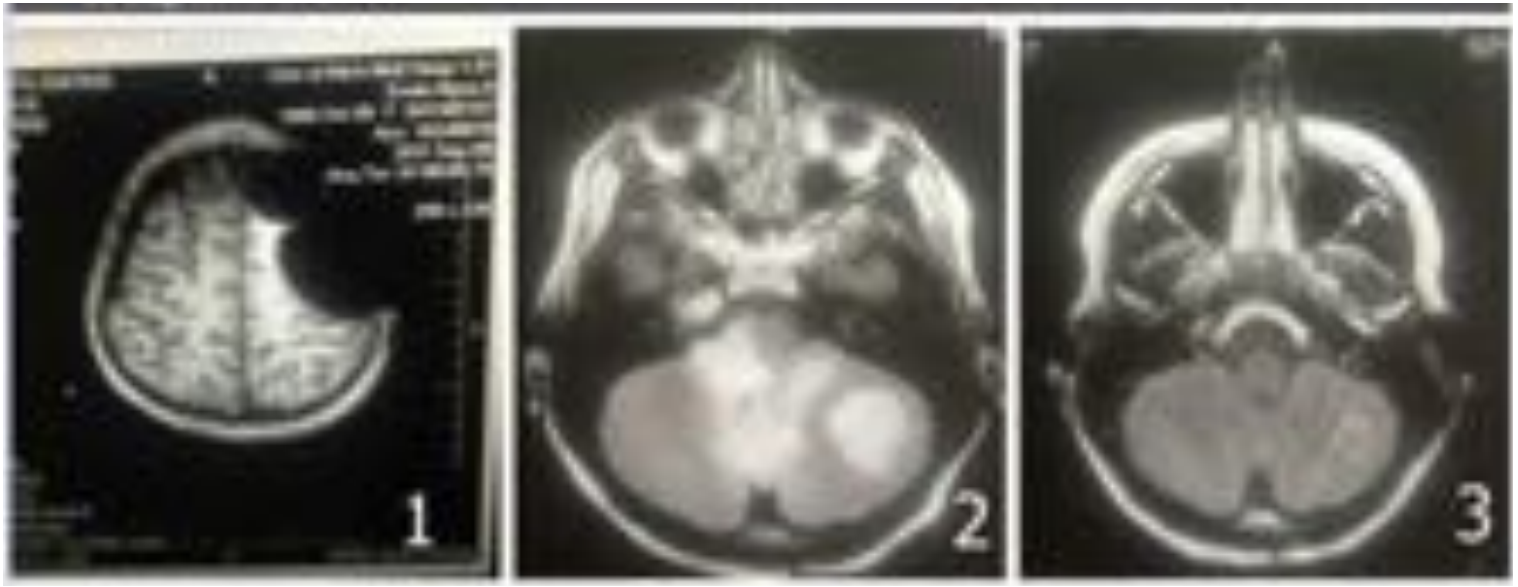


El timo de Rick Simpson

- Supuestamente cura el cáncer pero también todas las demás enfermedes
- Se oculta información sobre supuestos procedimientos
- Dosificación
- Inconcreciones y falsedades históricas
- Manipulación de datos de investigación de otros autores
- Recurso a la teoría de la conspiración
- Argumento histórico

Algunas historias falsas que circulan por Internet

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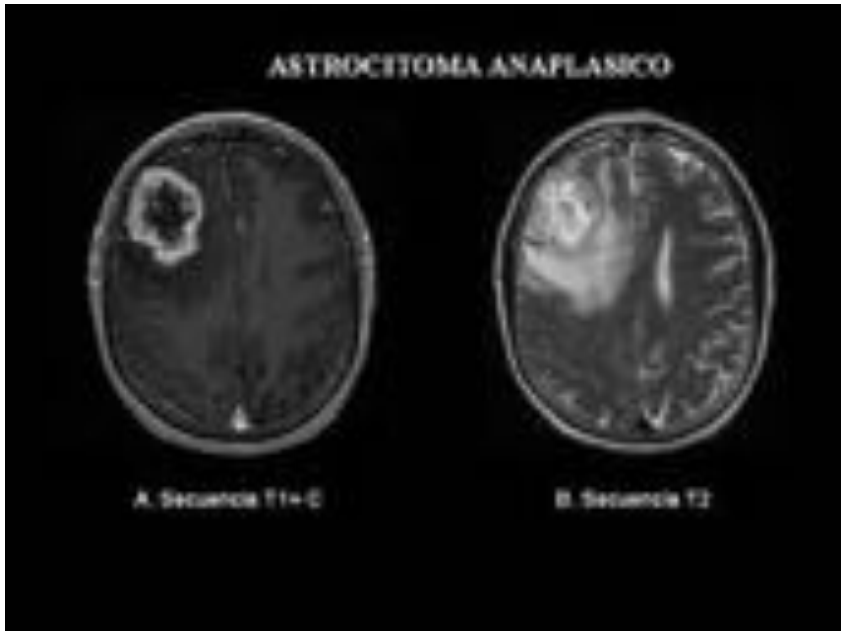
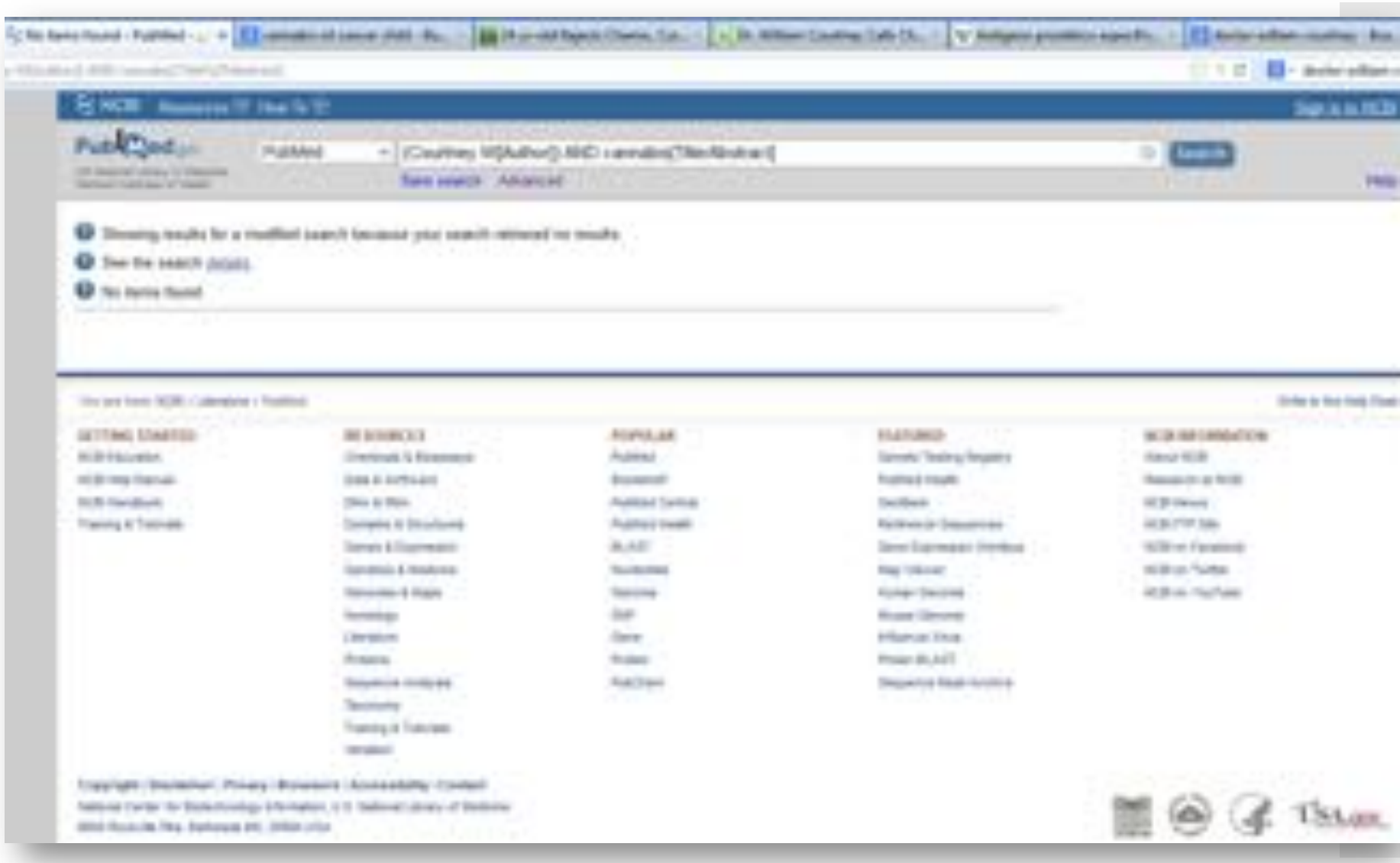

ASTROCITOMA ANAPLASICO
A. Secuencia T1+C
B. Secuencia T2


TOMMY CHONG
"I WAS DIAGNOSED WITH PROSTATE CANCER. I'M GOING TO START
"GOT MY BLOOD TEST RESULTS BACK. THE HEMP OIL IS WORKING"
CER CURE"
Tommy Chong: 'I'm Cancer-Free!'


Dr. William Courtney Calls Child "A Miracle Baby"
Medical marijuana is gaining acceptance, but could it even help kids? Dr. William Courtney has seen it happen, and on Friday, told HuffPost Live host Alyona Minkovski about it. Saying he was 'quite a skeptic 5 or 6 years ago', Dr. Courtney continued that 'my youngest patient is 8 months old, and had a very massive centrally
located inoperable brain tumor.' The child's father pushed for non traditional treatment utilizing cannabis. "They were putting cannabinoid oil on the baby's pacifier twice a day, increasing the dose... And within two months there was a dramatic reduction, enough that the pediatric oncologist allowed them to go ahead with not pursuing traditional therapy."The tumor was remarkably reduced after eight months of treatment. Dr. Courtney pointed out that the success of the cannabis approach means that "this child, because of that, is not going to have the long term side effects that would come from a very high dose of chemotherapy or radiation... currently the child's being called a miracle baby, and I would have to agree that this is the perfect response that we should be insisting is front line therapy for all children before they launch off on all medications that have horrific long term side effects."




A Resource For The Dietary And Medicinal Study And Use Of Cannabis
Consultations
A book on Non-psychoactive Dietary Cannabis is in the pipeline. Until then the information found at Cannabis International is updated as frequently as possible.
A patient to patient blog with episodic participation by Kristen or William has been re-introduced.
Kristen Courtney brings a decade of personal experience and research to the area of dietary cannabis. With multiple autoimmune disorders: lupus, juvenile rheumatoid, interstitial cystitis, cervical dysplasia, vertebral fractures complicated by diverse pharmaceutical allergies. With 14 surgeries and 4 years of bed rest she has empathy as well as knowledge that has arisen from her education in statistics and research design.
Dr. William Courtney has seen over 7,000 patients whose diverse medical conditions have provided him with an education that has driven him to understand how raw dietary cannabis interacts with every cell of the body. If you are not his patient he cannot give specific medical advice but can speak in general about the experience he has had with others with similar conditions.
For individual consultations on specific questions:
5 min.
15 min.
30 min.
60 min.
Kristen Courtney
$20
$50
$100
$200
William Courtney, MD, AACM
$40
$100
$200
$400
To schedule a consultation
First, contact the Courtneys by calling (707) 961-1428. Once you've set up a date and time, then you can pay for the consultation by visiting drwilliamcourtney.com
Cannabis International

Spontaneous regression of septum pellucidum/forniceal pilocytic astrocytomas--possible role of Cannabis inhalation.

Arrested growth and spontaneous tumor regression of partially resected low-grade cerebellar astrocytomas in children.

- En resumen:
  - Existen suficientes evidencias para recomendar el uso de cannabinoides en pacientes seleccionados para el manejo de algunos síntomas del cáncer
  - Existen datos de investigación pre-clínicos que sugieren que los cannabinoides tendrán algún papel en el tratamiento del cáncer en un futuro próximo
  - Internet contribuye a difundir mensajes erróneos sobre el Cannabis y el cáncer que pueden tener impacto sobre la salud de las personas.