

Antineoplaston therapy

Antineoplaston therapy is an alternative cancer therapy available in America, which was developed by Dr S R Burzynski in the 1970s. It has long been a controversial treatment for various types of cancers.

While some people promote antineoplaston therapy as being an effective cure for cancer, there is, to date, no scientific evidence (as defined in this fact sheet) that supports this claim.

This fact sheet will give you an overview of antineoplaston therapy and some of the literature behind the theories.

In this fact sheet:

- What are antineoplastons?
- What is antineoplaston therapy?
- Why is this treatment controversial?
- Other studies
- Possible side-effects

What are antineoplastons?

Antineoplastons are chemical compounds found naturally in blood and urine. These compounds are made up of amino acids (the building blocks of proteins) and peptides (molecules made up of two or more amino acids). It has been suggested that antineoplastons have anti-cancer properties.

What is antineoplaston therapy?

Antineoplaston therapy is an alternative cancer therapy which was developed by Dr S R Burzynski in the 1970s and has long been a controversial treatment for various types of cancers.

Burzynski believes that antineoplastons form a natural part of our body's immune (defence) system and that people with cancer do not have enough of these compounds. The Burzynski clinic proposes that increasing these compounds will result in the body fighting the cancer and result in tumour shrinkage.

In the initial stages, Burzynski extracted antineoplastons from blood and urine, however he is now able to make them in the laboratory. To get the antineoplastons into the body they are taken in tablet form or injected.

Why is antineoplaston therapy controversial?

While the Burzynski clinic promotes antineoplaston therapy as being an effective cure for cancer there is, to date, no scientific evidence that supports this claim.

To qualify as scientific evidence, studies must:

- Be published in a peer-reviewed scientific journal (a publication that contains original articles that have been written by research scientists and evaluated for technical and scientific quality and accuracy by experts within the same field)

- Report a therapeutic outcome, such as tumour shrinkage or extension of life
- Describe clinical findings in such a way that evaluation can be made of methods followed, results obtained and study replications can be conducted.

Some studies on antineoplastic therapy have been published. However, for the most part, these have been authored by Dr Burzynski himself or his colleagues at the Burzynski clinic. They do not meet the criteria needed to qualify as scientific evidence.

Although Burzynski's studies have reported remission, independent studies have not been able to replicate his results.

In addition to the question over published independent articles, there is a question over the level of clinical trials that have been carried out

For more information see the *Clinical trials* web page and fact sheet.

To date, no Phase III trials have been conducted into the benefits of antineoplastons. (This phase uses randomised clinical trials to look at whether a new treatment is better than an existing treatment.)

Current publications, written by Burzynski and independent researchers, have only included research trials at Phase I and Phase II levels. (Phase I looks at whether a treatment is safe or not; Phase II looks at whether a new treatment does what is hoped.)

Due to the lack of clinical evidence, antineoplastons have not been approved by the US Food and Drug Administration for the treatment of any type of disease. The Burzynski clinic therefore only offers antineoplastic therapy as part of a clinical trial.

The status of antineoplaston therapy as a clinical trial raises further controversy. It is highly unusual for clinical trials to last for more than a few years. Antineoplaston therapy is still categorised as a trial more than 34 years on.

Furthermore, those wishing to take part in the trial are being asked to pay tens of thousands of dollars for treatment. This situation is not the norm in the UK.

It is estimated by the American Cancer Society that a year's course of treatment at the Burzynski clinic costs between \$30,000 - \$60,000. With travel and accommodation, a person based in the UK could expect to need to raise in the region of £100,000 for a treatment which is, as yet, unproven.

Other studies

A report published by the United States Congressional Office of Technology Assessment (OTA) in 1990 concluded that:

"Despite a substantial number of preliminary clinical studies published by Burzynski and his associates and an attempt at a 'best case' review, there is still a lack of valid information to judge whether this treatment is likely to be beneficial to cancer patients."

The OTA report also criticized Burzynski's research process and noted that his definitions of advanced cancer and of complete and partial cancer remission were not used in accordance with generally accepted definitions.

In 1991, the National Cancer Institute (NCI) reviewed several 'best cases' (involving patients with brain tumours) that were chosen by Burzynski. The article, published in the Journal of the National Cancer Institute, stated:

"Two NCI investigators independently reviewed the case histories of some patients treated with antineoplastons. At the investigators' recommendation, the NCI examined the case histories, pathology slides and imaging studies from seven patients with primary brain tumours ... the site visit team and, subsequently, the [NCI] Division of Cancer Treatment's Decision Network Committee believed that evidence of possible antitumor effect was demonstrated."

The NCI concluded that these results warranted further investigation through clinical trials at other medical centres but, because of disagreement between NCI researchers and Burzynski, the clinical trials were terminated in 1995.

By 1999, the researchers concluded that only 6 of the 9 patients treated in that study could be evaluated according to the study's initial requirements. None of the six showed evidence of tumour shrinkage.

Controversy has continued to follow Burzynski with several legal challenges and attempts to revoke his licence. In March 2017 he was disciplined and put on probation by the Texas Medical Board after he was found to have been misleading terminal cancer patients, including failing to disclose changes in patients' treatment plans and potential risks associated with the treatment, plus improperly charging patients.

Possible side-effects of antineoplaston therapy

Antineoplastons may have not been thoroughly tested to find out how they interact with medicines, foods or dietary supplements and full studies of interactions and effects are not often available. Because of this, any information on side-effects must be considered incomplete.

Resources

CANCER: HOPE FOR SALE?

This is a documentary produced by BBC Panorama, investigating the treatment being provided by Dr. Burzynski.



You can watch the video via the following link:

vimeo.com/188009251

What if I have further questions or need other support?

You can contact our Information and Support Team in the following ways:



0808 800 0004

(Free from landlines and most mobiles:
3, O2, EE, Virgin and Vodafone)



support@thebraintumourcharity.org



Live Chat

Get in touch with us online via
thebraintumourcharity.org/live-chat



Join one (or more) of our
closed Facebook groups:
bit.ly/FBSupportGroups



thebraintumourcharity.org/getsupport

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About this information resource

The Brain Tumour Charity is proud to have been certified as a provider of high quality health and social care information by The Information Standard - an NHS standard that allows the public to identify reliable and trustworthy sources of information.

Written and edited by our Information and Support Team, the accuracy of medical information in this resource has been verified by leading health professionals specialising in neuro-oncology.

Our information resources have been produced with the assistance of patient and carer representatives and up-to-date, reliable sources of evidence.

We hope that this information will complement the medical advice you have already been given. Please do continue to talk to your medical team if you are worried about any medical issues.

If you would like a list of references for any of our information resources, or would like more information about how we produce them, please contact us.

We welcome your comments on this information resource, so we can improve. Please give us your feedback via our Information and Support Team on **0808 800 0004** or **support@thebraintumourcharity.org**

About The Brain Tumour Charity

The Brain Tumour Charity is at the forefront of the fight to defeat brain tumours and is the only national charity making a difference every day to the lives of people with a brain tumour and their families. We fund pioneering research worldwide, raise awareness of the symptoms and effects of brain tumours and provide support for everyone affected to improve quality of life.

We wouldn't be able to make the progress we have without the incredible input we receive from you, our community.

Whether it's reviewing our information resources, campaigning for change, reviewing research proposals or attending cheque presentations, everything you do helps to make a difference.

To find out more about the different ways you can get involved, please visit thebraintumourcharity.org/volunteering

We rely 100% on charitable donations to fund our work.

If you would like to make a donation, or find out more about other ways to support us, including leaving a gift in your Will or fundraising through an event, please get in touch:

Visit

thebraintumourcharity.org/get-involved
call us on 01252 749043 or email
fundraising@thebraintumourcharity.org



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