BC CANCER
Provincial Health Services Authority

Headlines

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a newsletter for brain tumour patients and their families

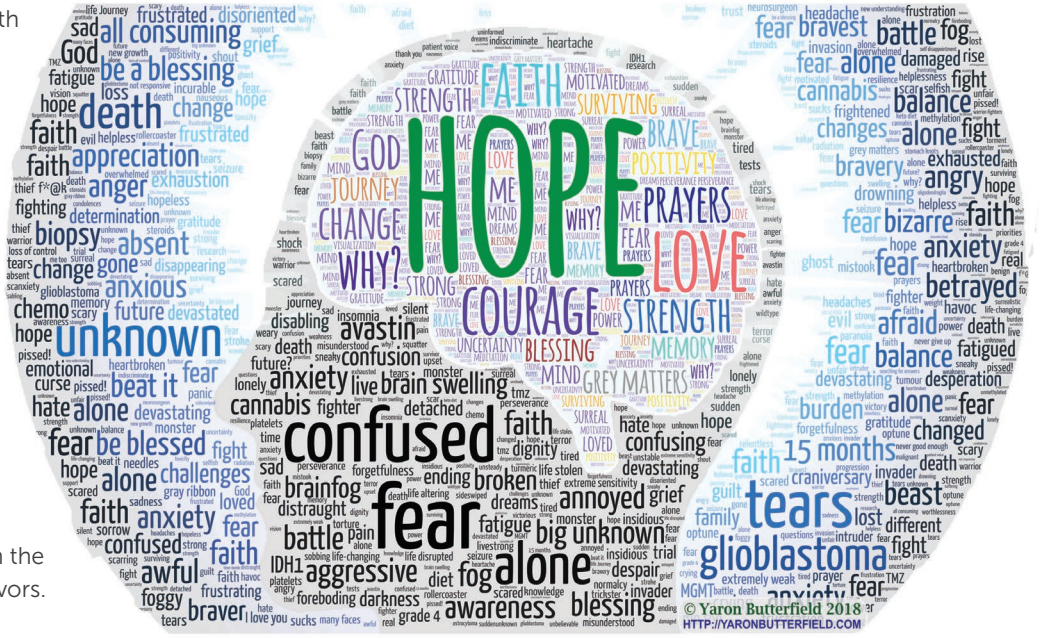
winter 2019

HOLIDAY ART SHOW 2018

By Yaron Butterfield

A HOLIDAY ART SHOW for people with a cancer diagnosis was held on November 30 at the John Jambor room at BC Cancer Vancouver. The project was the inspiration of some of the BC Cancer counselling staff as well as Sara Hankinson, the BC Cancer art therapist.

The show featured works in multiple media forms and allowed patients and families a chance to get to know one another through their talents, rather than through their cancer diagnoses. I included some of my art and had the pleasure of meeting other artists, seeing their beautiful work and hearing their amazing stories. Soon I realized that within the group, four others were brain cancer survivors. These photos tell some of the story.




Sara Hankinson, art therapist


Yaron Butterfield, glioblastoma survivor

A guide to clinical trials

By Rosemary Cashman, Nurse Practitioner

CANCER CENTRES often conduct clinical trials to identify better treatments for patients. Clinical trials are research studies involving humans that aim to answer important questions about health and treatment in carefully designed, scientifically meaningful ways. The decision to participate in such a study is a personal one, and is always voluntary.

Before a clinical trial takes place, extensive "preclinical" research is conducted in laboratories using animal subjects. Sometimes the media publish reports about treatments that appear to be effective in treating laboratory animals even before they have ever been tested in people. In fact, this is only the first step in evaluating a new therapy. After preclinical studies identify a promising new treatment, a trial investigator must submit to Health Canada a detailed proposal or protocol for a study of that treatment in humans. The protocol is a plan for the study, and outlines the procedures that will be used to safeguard human participants and to answer specific questions about the treatment under investigation.

Health Canada is a federal government agency that reviews the protocol to ensure the protection and safety of the participants; assesses the quality of drugs; assures review by Research Ethics Boards (REBs); and verifies the qualifications of the study investigators and monitors. If the trial appears to be well designed and safe, and if it offers the potential of a meaningful advantage to study participants, Health Canada may approve it. After this initial approval, the investigator must present the trial to the local REBs in the hospitals and sponsoring universities where the trial will take place before final approval is granted.

REBs are composed of health care professionals and members of the lay community who review studies to ensure their ethical integrity. Qualified Investigators are physicians who are responsible for the overall conduct of the trial at any given site. Monitors are hired by the pharmaceutical company that sponsors the trial to oversee its progress, ensure appropriate trial conduct and handling of trial data.

All clinical trials have criteria about who may and may not participate. These are called inclusion and exclusion criteria and consist of such details as age, general wellbeing, presence of any other illnesses, and type and stage of disease. By restricting criteria for entry in a clinical trial, all study participants are as similar as possible in many important respects. Patients who are not well enough to go through an aggressive experimental therapy are also excluded so as to spare them the potential of further harm.

Sometimes clinical trials compare an experimental treatment to the standard treatment in use for a particular condition. If the patients are very similar in terms of their disease and general condition, it is more likely that any difference in outcome between the experimental and standard treatment is due to the treatment, rather than some other factor.

Clinical trials also have strict guidelines about how the study will proceed and how and when assessments of participants will take place. Before a participant agrees to be in a study, he or she must provide written informed consent. Informed consent is an ongoing process through which participants learn key information about a trial, such as the reason for the study, the required study procedures, and the potential risks and benefits of their participation.

Some of the benefits of clinical trial participation for a patient may include:

- ability to take a more active role in decisions about care
- quick access to new treatments before they are widely available and
- opportunity to help others by contributing to medical research.

Some of the risks may include:

- unpleasant or dangerous side effects of experimental treatments
- ineffective treatment and
- extra tests or procedures to assess the safety and effectiveness of the treatment.

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Questions addressed in phases of clinical trials

Phase I: Is it safe?

Researchers test an experimental drug or treatment in a small group of people for the first time to determine a safe dosage and identify side effects.

Phase II: Does it work?

The experimental drug or treatment is given to a larger group of people to see if it is effective and to collect more information about its safety.

Phase III: Is it better than the standard treatment we already use?

The experimental drug or treatment is given to very large groups of people in multiple sites to compare it directly with the current standard treatment, to confirm its effectiveness, monitor side effects, determine its value in clinical practice and further evaluate safety.

Phase IV: What are the long term effects of the new treatment?

Additional information about the experimental treatment is collected even after the drug is marketed, including the drug's risks, benefits, and optimal and long term use.

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For more information about how you can support enhanced patient care, patient information and brain tumour research, please contact Fatima Hassam, Associate Vice President, BC Cancer Foundation.
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Clinical trials in brain tumours for 2019

By Dr. Brian Thiessen, Neuro-oncologist

THE NEURO-ONCOLOGY TEAM is looking forward to opening two new brain tumour trials this year. Recently we completed two clinical trials for the treatment of glioblastoma (grade 4 tumours) focusing on immunotherapy and we look forward to the eventual outcomes from those trials in the future. As those trials are now closed, we will soon be opening a new trial for newly diagnosed patients with glioblastoma. Later in the year we also plan to start a trial for patients with oligodendroglioma.

Glioblastoma

The new trial in glioblastoma focuses on an experimental agent called marizomib, which is a proteasome inhibitor that causes tumour cell death in gliomas and works well when used in combination with radiation and temozolomide. Early proteasome inhibitors like bortezomib, used in a blood cancer called multiple myeloma, showed excellent activity against glioma cells in cell cultures and lab mice, but failed to cross the brain's natural defence mechanism, the blood brain barrier, and therefore had limited activity in patients with glioma. Marizomib, however, has excellent brain penetration and we expect it to be more effective in brain tumour patients than the earlier proteasome inhibitors.

In this phase III study, eligible patients with newly diagnosed glioblastoma will be randomized to receive either 1) standard therapy of radiation with temozolomide or 2) a combination of standard therapy plus marizomib. Marizomib is given intravenously weekly for 3 weeks with a one week break and cycles will continue until the disease progresses or if patients develop unacceptably harsh side effects. Side effects that have been seen occasionally with marizomib in phase I and II clinical trials include dizziness, confusion, gait imbalance, hallucinations, nausea and vomiting. These toxicities disappear with discontinuation of the drug.

We look forward to starting enrollment for this exciting new agent in the months ahead at all BC Cancer centres. We will be working with other centres across Canada and Europe to complete this study as quickly and efficiently as possible.

Oligodendroglioma

The second trial we hope to open in the spring is the CODEL trial. This is a study for patients with newly diagnosed grade 2 and 3 oligodendrogliomas. CODEL stands for *co-deleted*, since oligodendroglioma tumours are characterized by the deletion of genetic material on both chromosomes 1 and 19 (hence, there is co-deletion at two chromosomal sites). We've known for several years now that these tumours are best treated with a combination of radiation and chemotherapy, but it has not been clear which chemotherapy regimen is best. Early trials in gliomas showed benefit with a 3 drug combination therapy referred to as PCV and consisting of procarbazine, lomustine (also called CCNU) and vincristine. This regimen is associated with some serious side effects, including rash, nausea, fatigue, blood count problems and liver injury. As a result, 30-40% of patients are unable to complete the prescribed course. More recent trials in glioma have focused on a single drug, temozolomide, which has had excellent results in glioblastoma and astrocytoma and is much better tolerated by patients. The CODEL trial will directly compare the two regimens in a phase III design. Patients with newly diagnosed oligodendroglioma will be randomized to receive either 1) radiation plus PCV or 2) radiation plus temozolomide. Both treatment arms will be compared for survival of the patients as well as short and long term toxicity of side effects.

We hope that this trial will answer the question once and for all as to whether patients with oligodendrogliomas achieve equivalent or better results with temozolomide compared to PCV. If temozolomide is just as good or better than PCV, we could avoid the toxicity of PCV altogether in these patients.

For more information about clinical trials, see the article entitled A Guide to Clinic Trials in this issue.

For more information about the blood brain barrier, see *Headlines* Fall, 2010.

A guide to clinical trials

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It is important for the patient to ask questions and be well-informed before deciding to participate in a clinical trial. And it is always the patient's right to withdraw from participation if desired, without compromising care or the relationship with care providers.

Clinical trials are conducted in phases. Understanding which phase the study is going through may help the patient decide whether to participate or not. Some other questions the patient might ask before deciding to participate in a clinical trial include:

- What are potential side effects of the experimental treatment?
- What is the alternative to participation in this trial?
- How will my safety be protected?
- Will I need to come to the hospital/clinic more frequently if I agree to participate?
- Will I need to relocate in order to participate in the clinical trial?
- Will there be any additional costs to me if I participate?

For more information about clinical trials see:
https://clinicaltrials.gov/
https://www.bmj.com/content/361/bmj.k1452

Editions of *Headlines* are also available as a pdf download on our website at: www.bccancer.bc.ca/headlines

If you would like to submit an article, ask a question, or serve on our patient and family editorial board, please contact Rosemary Cashman at rcashman@bccancer.bc.ca or 604 877 6072 (phone) 604 877 6180 (fax).

Nutrition and cancer

By Rosemary Cashman, Nurse Practitioner
With thanks to Amber Brown Dahl and Angie Bowman, Registered Dietitians, BC Cancer Oncology Nutrition

PEOPLE OFTEN ASK FOR recommendations about nutrition when they are undergoing treatment for a brain tumour, or even if they have finished treatment and want to remain well. Although there has been extensive research on diet and cancer, most of this research has focused on particular foods or nutrients and their impact on tumour formation and growth in a particular site in the body, especially in breast, prostate and gastrointestinal cancers. These findings suggest that a healthy diet may minimize the risk of some types of cancer, although there is little information about diet and prevention of brain cancer specifically.

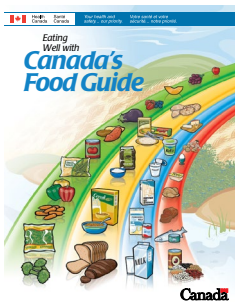
Studies demonstrate that obesity is a significant risk for many types of cancer, including esophagus, colon and rectum, gallbladder, pancreas, stomach, kidney, prostate, breast, uterus, cervix and ovary. Simple sugars (found in candy bars and soft drinks, honey and fruit juice), and refined flours (flour which has had wheat germ and bran removed) may also contribute to health problems, especially the development of diabetes. Diabetes has been linked to heart disease and some kinds of cancer, notably colorectal, endometrial and pancreatic cancer. Sugar is found in all carbohydrates, including fruits, vegetables, and whole grains. It is an important source of energy for all cells, cancerous and healthy alike. Some people are concerned that sugar may "feed" tumour cells and may wish to eliminate it, but by eliminating all sugar entirely from the diet, healthy cells may be harmed. Red meat has been linked to colorectal and breast cancer, and according to some studies, should be eaten in restricted quantities. Foods that are high in cholesterol and saturated fats may promote cancer and heart disease, although foods rich in omega 3 fats (found in flaxseed oil, fish, and some eggs) offer protection against these diseases.

So what foods should you eat if you want to minimize the risk of cancer? There is overwhelming evidence that a diet rich in fruits and vegetables protects against many kinds of cancer, diabetes and heart disease. In lung cancer studies, consumption of fruits and vegetables cuts the risk of lung cancer, even in smokers. There are numerous healthful substances in fruits and vegetables, and a wide variety of these foods taken on a daily basis, ensures a varied intake of nutrients. These foods also supply fibre, and high fibre diets appear to protect against gastrointestinal cancers. In addition, fruits and vegetables are a rich source of antioxidants (vitamins C and E, selenium, and alpha- and beta-carotene), which prevent DNA damage and thus protect against mutations causing cancer. Folate, found in dark green leafy vegetables, also plays a role in DNA integrity and has been proven to prevent brain tumours in children when taken by their pregnant mothers.

If it is thought that some foods may reduce the risk of cancer, what if you already have cancer, such as a brain tumour? The research is much less clear about the role diet plays in fighting existing tumours. In some cases, the substances that may reduce the risk of cancer may also interfere with treatments aimed at fighting cancer when taken in high doses. It is possible that taking antioxidants in supplemental intravenous or pill form during chemotherapy or radiation therapy can reduce treatment effectiveness by protecting tumour cells from the oxidative damage intentionally caused by cancer therapy. Generally, the recommendation is to avoid supplementary antioxidants in high doses during treatment, but it is safe to eat foods containing antioxidants. Ask your oncologist or oncology pharmacist for advice about the use of antioxidants and other supplements throughout your treatment.

When challenged by illness and the harsh treatments used to treat cancer, our bodies have an even greater need for protein to repair and build tissues, vitamins to assist with normal functioning and replenishment of cells, and minerals for healthy bones, teeth and blood. For that reason, we do not recommend diets that overly restrict nutrition, including the ketogenic diet (a high fat, low carbohydrate diet). Dietary sources of calcium and vitamin D may need to be supplemented if you are taking long term dexamethasone or certain seizure medicines, as some of these drugs may cause your bones to become weak. There is little evidence that eating nutrients in excessively large doses results in better outcomes for those with cancer.

The bottom line is that your body needs adequate, but not excessive calories for energy, and a healthy diet composed of a variety of nourishing foods, rather than "empty calories" or a restricted range of foods.



Canada's Food Guide offers help in choosing the right kinds of foods in the amounts that lead to optimal health. Note that this food guide is currently under revision and some of the changes expected in the 2019 food guide include advice on what constitutes healthy eating (for example, cooking and eating at home with family or friends rather than eating prepared foods on the run by yourself), new groupings of recommended foods (for example, suggesting protein-rich foods rather than "meat and meat alternatives"), less emphasis on dairy foods and reduction or avoidance of refined sugar, salt, alcohol and processed foods (the "empty calories" that provide calories, but contribute little to nutrition).

If you have specific concerns about your nutrition, talk to your oncologist or nurse about a referral to a dietitian.

For more information about cancer and diet, see:
www.cancer.org/healthy/eat-healthy-get-active/acs-guidelines-nutrition-physical-activity-cancer-prevention.html

www.bccancer.bc.ca/health-info/prevention/nutrition

For the 2018 Canada Food Guide see:
www.canada.ca/content/dam/hc-sc/migration/hc-sc/fn-an/alt_formats/hpfb-dgpsa/pdf/food-guide-aliment/print_eatwell_bienmang-eng.pdf