BC Cancer Agency www.bccancer.bc.ca

Headlines

Spring 16 A newsletter for brain tumour patients and their families

Wellness

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SPRING IS HERE with all of its colourful gifts of beauty, providing relief from the dull winter greys. With spring comes an opportunity to improve your wellbeing and mental health. The body and mind function better when there is a sense of balance in some essential areas in life. Creating a new routine or schedule might sound daunting, but when you think in terms of balance and rhythm it may help to focus your efforts.

For example, plan some time to be active and plan some time to be still. Plan some time with friends and loved ones and plan some time just for you. Here are a couple of other ideas to consider trying as you think about your wellbeing.

Mindful Walking Meditation

Find a quiet and safe area where you can focus on walking without distraction or interruption. If you can have bare feet – go for it! As you walk, move slowly and pay attention to all of the activity in your body. Step by step. Notice your connection to the ground, the shift in movement through your body, balance, each stride, each step. Remember to breathe, noticing what it feels like as the air moves in and out. Notice your arms and other parts of your body as you take each step. While you walk, keep your focus on the walking experience, even as you notice your surroundings. You may have other thoughts come – just let them go. Important thoughts will come back when you are finished the exercise.

It can be helpful to set a timer to limit distractions and to temporarily cease thinking about your "to do" list. When you are mindfully walking, you might find it pleasant, unpleasant or neutral (or a combination of all three). There are no hard and fast rules about the practice. It's a form of meditation and may or may not be a right fit for you.

Taking a Natural Breath

When you were a baby, your body kept a natural rhythm with your breath. As an adult, you have surely had moments of high stress when your breath was not calm and steady. Sometimes with longer periods of stress, the body and the breath forget to return to a calm and naturally relaxed rhythm. When this happens, the breath tends to be held in the upper portion of the lungs instead of deep in the lower part of the lungs. Practicing taking a natural breath can be very helpful in lowering stress and increasing calm for the body and mind. It's a simple exercise that can be done anywhere, because you are always breathing!

To practice, think about your lower lungs and the diaphragm area and notice how far air seems to travel when you inhale. Gently encourage your breath to move a bit further down without causing pressure from taking too big a breath. As you inhale and exhale, place your hands on your upper and lower chest. This can help focus your attention on where the air is going. Be patient, it can take a while for the breath to return to a natural rhythm. You can practice by taking ten inhale/exhale cycles of breath throughout the day. Over time, you may find yourself feeling calmer and less stressed.

Happy Spring!

If you would like to meet with Alison or your local PFC counsellor for emotional support, speak with your health care team or contact your local Patient & Family Counselling Office.
http://www.bccancer.bc.ca/our-services/services/patient-family-counselling

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For more information about how you can support enhanced patient care,
patient information and brain tumour research, please contact Alyson Meehan, Director, Principle Gifts
at the BC Cancer Foundation TOLL FREE at 1 888 906 2873 or by email at ameehan@bccancer.bc.ca

Clinical Trials Update

By Dr. Brian Thiessen,
Neuro-oncologist, Vancouver Centre

BRAIN TUMOURS are rare diseases, so the availability of clinical trials can be quite variable. Fortunately in 2016 there will likely be five clinical trials opening at the Vancouver Cancer Centre.

CheckMate 498 – A randomized phase 3 open label study of nivolumab vs. temozolomide each in combination with radiotherapy in newly diagnosed subjects with unmethylated MGMT glioblastoma.

While the title is certainly wordy, the nuts and bolts of this study revolve around comparing 1) the use of a standard chemotherapy agent (temozolomide) with radiotherapy to 2) the use of an immune checkpoint inhibitor (nivolumab) with radiotherapy. This trial will be open for newly diagnosed patients with glioblastoma. They will be tested for the presence of MGMT methylation in their tumour and, if unmethylated, will be eligible to participate. MGMT is methylguanine methyltransferase, a DNA repair enzyme. Patients whose tumours are MGMT methylated or indeterminate on testing will be eligible for another trial (CheckMate 548 - see below).

Immune checkpoint inhibitors are an exciting new way to boost the immune system against cancers. These agents stop the immune system from calling off its attack on cancer cells. They've been shown to be very effective in melanoma, lung cancer and kidney cancer. We hope that same benefit will be seen in glioblastoma.

CheckMate 548 – A randomized phase 2 blinded study of temozolomide plus radiotherapy combined with nivolumab or placebo in newly diagnosed subjects with MGMT methylated glioblastoma.

In this second study we will be exploring the role of the checkpoint inhibitor (nivolumab) when combined with radiation and temozolomide. Patients in both treatment arms of this trial will receive chemotherapy, as we know that temozolomide is quite effective for glioblastoma with MGMT methylation. In addition, half the patients will be randomized to receive the active experimental treatment (nivolumab) and the other half will be randomized to receive placebo with their chemotherapy and radiotherapy. The study will be blinded, meaning no one - not the doctors or the patients - will know whether the study participant is receiving nivolumab or the placebo. This will eliminate any potential biases that might occur if the treatment arm for any given patient was known.

Office of the Mayor
CITY OF VANCOUVER
BRITISH COLUMBIA

Proclamation

"BRAIN TUMOUR AWARENESS MONTH"

WHEREAS The causes of brain tumours are unknown and cure remains elusive;

AND WHEREAS Early detection and treatment of brain tumours are vital to prolonged and improved survival;

AND WHEREAS Current information indicates that 27 Canadians are diagnosed with a brain tumour every day;

AND WHEREAS Brain tumours strike people of all ages from newborns to seniors, crossing all economic, social and ethnic boundaries;

AND WHEREAS Brain tumours are the most common cause of solid cancer death in children and young adults;

AND WHEREAS Brain tumours cause changes in mobility, vision, cognition and personality, and profoundly alter the lives of patients, their families and their communities;

AND WHEREAS The mission of Brain Tumor Foundation of Canada is to advocate for and reach every Canadian affected by a brain tumour through support, education, information and research:

NOW, THEREFORE, I, Gregor Robertson, Mayor of the City of Vancouver, DO HEREBY PROCLAIM the month of May, 2016, as

"BRAIN TUMOUR AWARENESS MONTH"

in the City of Vancouver.

Gregor Robertson
MAYOR

VBL-111 – A phase 3 randomized double-arm open label study of VB-111 combined with bevacizumab vs. bevacizumab monotherapy in recurrent glioblastoma.

This clinical trial will be open for patients with glioblastoma at the time of first or second relapse after previous treatment with radiation and/or chemotherapy. The study is randomized so that half the patients will receive our standard therapy, bevacizumab, and the other half will have bevacizumab combined with the experimental agent VB-111.

Brain tumours make their own blood vessels to supply nutrients and oxygen for growth. This process is called angiogenesis. Bevacizumab is an antibody that binds vascular endothelial growth factor (VEGF) and stops the angiogenesis process. This is a way of "starving" the tumour to halt its progression. Unfortunately tumours often do find their way around the effects of bevacizumab to restart the angiogenesis process.

VB-111 is a genetically modified virus (a common flu virus, actually) which has been designed to target only new blood vessels made by tumours and will cause them to regress. Combined with bevacizumab, it is hoped the virus treatment will do a better job blocking tumours from making the blood vessels they need to survive.

IND 222 – A phase 1 / 2 study of mTORC1/mTORC2 kinase inhibitor AZD2014 in patients with previously treated glioblastoma.

This is another trial for glioblastoma patients with tumours that progress after initial treatment. All patients must have successfully completed radiation and temozolomide chemotherapy. Patients in the phase 1 (dose finding) portion of the trial must be surgical candidates, whereas the phase 2 (effectiveness) portion may have no surgery planned. All patients will be treated with AZD2014 (a

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About clinical trials for brain tumour patients

EXPERIMENTAL THERAPIES undergo extensive "pre-clinical" testing in laboratories using animal subjects before they are tested in humans. Clinical trials are research studies conducted in humans. Much effort is put into the design of the study so that the research questions are answered as clearly and unambiguously as possible.

Most clinical trials for brain tumours are designed for patients who are newly diagnosed and have received no treatment yet, or for patients at first relapse, meaning when the tumour first becomes active after initial treatment. Most clinical trial treatments target glioblastoma, as this is the most common malignant brain tumour.

Clinical trials are conducted in phases, with increasing evidence to support the therapy under investigation for each phase.

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 treatment we already use? The experimental drug or treatment is given to very large groups of people to confirm its effectiveness, monitor side effects, *compare it to standard treatments, 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.

Other terms you may see

Randomized: A randomized clinical trial is one that has two or more treatment "arms" and it is not known which is most effective. Study participants are *randomly* (by chance, like the toss of a coin) assigned to a treatment arm. This is meant to eliminate any possibility of bias in assigning any individual patient to any particular treatment.

Blinded: "Blinding" in a clinical trial is another way to eliminate bias. Either patients, doctors, or both (double-blind) do not know whether the treatment received by the patient is the experimental drug or a standard or "placebo" treatment.

Placebo: A placebo is an inactive, harmless substance. A placebo may be used in a clinical trial to clarify the effects of the experimental treatment.

Open label: An open label trial is one that is not blinded, meaning that the patients and the doctors know which treatment is being administered to the subjects.

For more information about clinical trials, see:

www.bccancer.bc.ca/health-info/types-of-cancer/brain-central-nervous-system/headlines > Headlines 2007 Spring

www.cancer.ca/en/cancer-information/diagnosis-and-treatment/clinical-trials/?region=bc

www.bccancer.bc.ca/our-research/participate/clinical-trials

www.bccancer.bc.ca/our-services/services/library/recommended-websites/cancer-treatment-websites/clinical-trials-websites

Clinical Trials Update
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drug which blocks a growth pathway in glioblastoma) combined with additional temozolomide. There is no placebo arm. Many glioblastomas show overactivity of the mTOR pathway and it's hoped that this new inhibitor of the mTOR pathway can help improve the effectiveness of temozolomide.

CEC.6 (CODEL) – A phase 3 study of radiotherapy with concomitant and adjuvant temozolomide vs. radiotherapy with adjuvant PCV chemotherapy in patients with 1p/19q co-deleted anaplastic or low grade glioma.

Finally, here is a trial for a tumour that is not a glioblastoma. This trial is for our patients with newly diagnosed grade 2 and 3 gliomas that show deletion of chromosome 1p and 19q on molecular testing. Patients with these gliomas have been found to benefit greatly from the addition of chemotherapy to radiation when first treated. However, there is no consensus on what chemotherapy is the best in this condition. PCV, a three drug regimen consisting of oral **p**rocarbazine and lomustine (**C**CNU®) and intravenous **v**incristine, has the most evidence supporting its use, but is also very toxic. Temozolomide has superior evidence supporting its use in high grade gliomas but less evidence in lower grade tumours. It is clearly better tolerated than PCV, however. This trial is designed to determine which of these two treatments is better for this disease.

Patients on this trial will be randomized so that half will receive radiation with the temozolomide and half will receive radiation with the PCV combination.

See the article in this issue called **About Clinical Trials** for more information about some of the terms used in this article.

For more information see previous issues of Headlines:

www.bccancer.bc.ca/health-info/types-of-cancer/brain-central-nervous-system/headlines

MGMT in 2007 Fall and 2009 Summer.

Bevacizumab in 2008 Fall.

1p/19q testing in 2011 Fall.

Question + answer

Q I was diagnosed with a glioblastoma recently. A friend who is a scientist thinks I should enroll in the *Personalized Oncogenomic Program (POG)* at the BC Cancer Agency's Genome Sciences Centre. She told me about a woman whose cancer was cured with a blood pressure medication as a result of what the POG program discovered about her cancer.

A Unfortunately, although the personalized approach to treatment is certainly exciting, reports in the media have overstated the success of the POG program to date. The program has not cured anyone, but I understand the interest. The POG program is a highly experimental program looking at the genome of cancer patients' tumours and determining if there are gene mutations driving the tumour growth and whether any drug can be used against that mutation. It requires patients to have been treated minimally (no more than one prior chemotherapy regimen) and to have access to fresh tumour tissue for analysis, meaning you must undergo a surgery. It then takes three months for analysis and results. This program is excellent for many of our rare slow growing brain tumours such as meningioma, ependymoma, pilocytic astrocytoma, schwannomas and pituitary tumours as they are frequently resected, have no effective chemotherapy options and are slow enough in growth that a three month wait time is not going to lead to adverse consequences. They also have a limited number of gene mutations, meaning targeted therapy has a better likelihood of being effective.

Glioblastoma, on the other hand, is a highly aggressive tumour. Undergoing a second surgery to get fresh tissue and then waiting three months for treatment is almost never a good idea. It's also a very highly mutated tumour that has failed innumerable clinical trials with targeted therapy over the last decade. Finding an effective therapy through POG would be like finding a needle in an amazingly large haystack. Patients with this tumour are poor candidates for the POG program.

Given that the program at this time is highly experimental, is restricted in the types of cancers in which genome testing can be carried out and has only limited resources, we are currently focusing on enrolling patients who are most likely to benefit from the POG program. In the future, the program may be expanded to include patients with other types of cancer.

For more information about the POG program, see: www.bccancer.bc.ca/about/news-stories/stories/personalized-onco-genomics-(pog)-q-a and www.bcgsc.ca/project/pog

By *Dr. Brian Thiessen, Neuro-oncologist, Vancouver Centre*

Annual Brain Tumour Foundation of Canada Walk

Walk. Sprint. Fundraise.

Research, support, information, advocacy, awareness and HOPE – you make all of this possible by joining your local Brain Tumour Walk. Whether you've just begun your journey, you're honouring a survivor or you have lost someone close to you, you are part of the National Movement to End Brain Tumours.

Vancouver details

Where: Burnaby Lake Rugby Club
When: Sunday June 26, 2016
Registration opens: 9 am
Opening ceremonies: 10:30 am
Survivor photo: 10:45 am
Walk starts: 11 am
After the Walk: 11:30 am to 1:30 pm
Free BBQ + entertainment for all participants

braintumour walk

Victoria details

Where: University of Victoria
When: Sunday May 29, 2016
Registration opens 8:30 am
Survivor photo: 9:45 am
Opening ceremonies: 9:50 am
Walk starts: 10 am
After the Walk: TBA

For more information, call 1-800-265-5106 or see: www.braintumourwalk.ca/site/PageServer?pagename=EventCentral_Events

**Editions of *Headlines* are also available as a pdf download on our website at:
www.bccancer.bc.ca/health-info/types-of-cancer/brain-central-nervous-system/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).**