

## Cancer in Children

Cancer in children has become an increasingly heartbreaking obstacle on families and friends of these children. Even though cancer in children may be rare, the treatment of these cancers has become a day to day struggle that many families and friends would soon not have to cope with. Research of cancer has outlined several different types of cancer and brain tumors, and it may be confusing to understand why this can occur in such an early age. At the present time, studies have shown increasingly prolonged lives for these children because of new strategies in treatment but are these improvements in treatment actually good for these children.

How can we define cancer? It can be difficult at times. *Kids Health* has defined cancer as being cells that grow out of control, may grow in different types of shapes, destroy all other good cells around them, and just spread throughout the body destroying all main organs and tissues. Because children are so fragile and their organs are just starting to develop, the cancer destroys the nutrition in turn destroying their young organs and weakening their bodies. It also has been documented that most of these childhood cancers occur in the genes due to the inheritance of family members and thus, these cancers are hard to detect and treat. These types of cancers are often known as leukemia, lymphomas, and of course, brain tumors. Some of these cancers can be caused by radiation such as from x-rays. (KH, "What is Cancer?"). Additionally, the causes of cancer are unknown and have been noted to occur in children more than adults. Having a

family member diagnosed with cancer and knowing they are going to die cannot be the best news for the family or for friends of that family. Research details cancer can be caused by radiation and further discusses that cancer can be cured by radiation.

Brain tumors in children are also hard to detect. These tumors can occur in the brain and continue to grow up to as long as two years before being found. *Medline Plus* defines a brain tumor as a mass of abnormal cells that start in the brain. (MP, "Definition"). There are also other names for these primary brain tumors such as Glioblastoma Multiforme, Ependymoma, Astrocytoma, Medulloblastoma, Oligodendroglioma, and Meningioma. Research is still trying to detect the cause of these tumors. They are located primarily in a small area of the brain, spread to nearby areas and can be malignant or benign. Brain tumors get their classification from the size of the tumor, the type of tissue and whether or not it contains cancer. Some of the most common types are Astrocytomas, Brain Stem Gliomas, Ependymomas, and Medulloblastomas. (MP, "Causes"). There are also tumors containing a mixture of astrocytes and ganglion cells and these are called Mixed Neuronal-Glial tumors. These tumors appear in the cerebrum where motor function and personality are affected. The most common is the Ganglioglioma, which are mostly benign; the next is the Subependymal Giant Cell tumor, mostly malignant and occur from a genetic condition known as tuberous sclerosis, and Pleomorphic Xanthoastrocytoma, which are benign. (CHOP, "Types").

Symptoms of these tumors include headaches, vomiting, seizures, blurred vision and impaired speech, weakness in arms and legs and difficulty in balancing. (UTMD, "Symptoms"). Astrocytomas occur in children ages 5 to 8 and are often located in the

optic nerve or brainstem. Brainstem Gliomas occur at age 6 and are almost impossible to remove by surgery. (MP, "Tumor Types"). Gliomas make up about 75% of tumors in children and 50% in adults and are the most common type of tumor. Ependymomas cover about 8-10% among children. (CHOP, "Types of Tumors"). They grow in the ventricles and block the flow of cerebrospinal fluid and may reoccur after treatment. The most common type is Medulloblastomas and they occur mostly in boys during the ages of 5 to 10. (MP, "Tumor Types"). There can be several weeks of these symptoms before diagnosis can be made.

The *U.S. Environmental Protection Agency* has compared cancer in children to that of adults and is common among children from the ages 0 to 19. (USEPA, "Childhood Cancer"). Childhood cancer has increased from 1975 to 1990. (USEPA, "Cancer Incidence"). Leukemia is the most common for children from 1973 to 1996. Central Nervous System tumors cover 17% and Lymphomas take about 16%. Central Nervous System tumors have increased from 1973 to 1996 while Lymphomas showed a declination. (USEPA, "Childhood Cancer by Type"). These tumors make up about 20% of all childhood cancers and are the second most common form of cancer next to Leukemia. (CHOP, "common"). The disease has become stable since 1990 and deaths due to this type of cancer have decreased because of new forms of treatment. (USEPA, "Cancer Incidence").

The forms of treatment for these cancers include chemotherapy, the medical drugs that kill cancer cells, radiation which is radiant energy to kill cancer cells, and surgery, which is the removal of tumors, and may differ depending on the child's age and the cancer involved. (KH, "Cancer Treatment"). For Leukemia and Lymphoma, surgery is

rarely the decision because they cannot operate in just one general area. Surgery is the best form of treatment for removal of tumors and Osteosarcoma along with chemotherapy and radiation. (KH, "Surgery").

Chemotherapy involves the taking of medication either through the vein or by mouth and enters the bloodstream to remove the cancerous cells. These treatments can occur as often as weekly depending on the child and the cancer. And, also with this treatment come the aggravating side effects such as nausea, vomiting, hair loss, anemia and risk of infection, bladder inflammation, hearing loss and liver damage. (KH, "Chemotherapy"). Radiation is the most common and involves radiant energy or high-energy particles that destroy cancer cells. The side effects with this may involve future aspects of cancer or infertility. (KH, "Radiation"). Also, along with the radiation treatment the continued sickness and the loss of hair occur.

Brain tumors are treated mainly by surgery but can include chemotherapy and radiation. Some other forms of treatment are steroids and stem-cell rescue. Other medications involved that can be used to treat tumors are corticosteroids for reduction of brain swelling, diuretics, anti-convulsants for seizures, and pain medications. (MP, "Treatment"). These treatments, although at times can be helpful, continue to increase sickness in the child making them more ill, giving them more headaches and vomiting while they are taking the treatment. Having to live years later with the after effects can continue to do more hardship to the family along with the child.

When possible, children need to be involved when they are taking treatment for cancer so they can be aware of what is happening and what needs to be done. Counselors

and other members of psychology are also available to help these families cope with the pain and offer any guidance throughout the treatment.

There are always going to be side effects due to this treatment and some are long-term and some are short-term. In the long-run, research and present day medical treatment has helped and will continue to offer survivorship for these children. The many forms of treatment can account for 70% of children being cured and able to live strong, normal lives. (KH, "Coping with Cancer"). How can we know this can be an accurate statement? What kind of life would a child want if he or she would have to live being sick all the time, not being able to do the same things other children can do, and knowing that their tumor is cancerous and could grow back at any time? Doing the treatment is the best way to avoid more cancerous cells from growing but is it really worth it to know your life would be filled with the continued sickness and side effects such as failure to other parts of the body.

## WORKS CITED

“Brain Tumor – Children.” October 31, 2006. Medline Plus. U.S. National Library of Medicine.

<http://www.nlm.nih.gov/medlineplus/ency/article/000768.htm>.

“The Cancer Center.” May 2005. The Children’s Hospital of Philadelphia.

<http://www.chop.edu/consumer/jsp/division/generic.jsp?id=78823>.

“Childhood Cancer.” July 2005. Kids Health for Parents. 1995-2007 The Nemours Foundation.

<http://www.kidshealth.org/parent/medical/cancer/cancer.html>.

“Childhood Cancer.” July 7, 2003. U.S. Environmental Protection Agency. Children’s Health Protection.

[http://yosemite.epa.gov/ochp/ochpweb.nsf/content/childhood\\_cancer.htm](http://yosemite.epa.gov/ochp/ochpweb.nsf/content/childhood_cancer.htm).

“Treatment Information.” April 1, 2007. 2007 The University of Texas, MD Anderson Cancer Center

<http://www.mdanderson.org/children/display.cfm?id=811f4d74-be33-4e34-9ef0f191261372>.

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