

Fact Sheet



GIVING HELP, GIVING HOPE

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Pilocytic Astrocytoma in the Adult

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What is a pilocytic astrocytoma?

A pilocytic astrocytoma is a slow growing astrocytoma. It is considered a benign tumor because typically it does not invade the brain tissue. The tumor is made up of a cystic portion filled with fluid, and a more solid portion called a nodule. This tumor is usually a childhood tumor, occurring most often in the first 20 years of life. Pilocytic astrocytomas have been reported in adults but most reported cases are in adults less than 40 years old. The number of males and females with this tumor is equal.

In children, pilocytic astrocytomas are most often located in the cerebellum but in adults they may be located elsewhere such as in the cerebral cortex or brainstem. Usually, there is only one tumor found at the time of diagnosis but sometimes multiple tumors have been reported.

What are the signs and symptoms of a pilocytic astrocytoma?

The signs and symptoms of a pilocytic astrocytoma are dependent upon its location in the brain. Because most of these tumors are located in the cerebellum, the coordination center of the brain, persons most often have balance and coordination problems. Difficulties may include sitting or standing straight, balance, walking or clumsiness when handling objects. If the tumor is blocking the flow of the cerebral spinal fluid, hydrocephalus may develop. Hydrocephalus is a condition that occurs when too much cerebrospinal fluid collects within the ventricles (cavities) of the brain. Signs of hydrocephalus may be: headache, nausea or vomiting, difficulty thinking, or blurry vision. If the tumor is located in the cerebral cortex, problems with speech, movement, sensation or seizures can occur.

Persons generally have symptoms for less than two years

before the tumor is found by a physician. The time that symptoms have been going on may be shorter or longer depending upon the location of the tumor in the brain.

What treatments are available for pilocytic astrocytomas?

The treatment of choice for pilocytic astrocytomas is complete removal of both the cyst and the nodule. If the nodule is not removed, the tumor has a greater chance of reoccurring than if it had been removed. If a tumor reoccurs, it usually does so at its original site. The tumor that reoccurs may be benign or malignant.

What treatments are available for a pilocytic astrocytoma which cannot be totally removed by surgery?

If the tumor is not completely removed, radiation may be recommended. Radiation is not necessary for tumors that have been completely removed. Because pilocytic astrocytomas are slow growing, and the side effects of radiation potentially harmful, radiation treatment for pilocytic astrocytomas is still under discussion. Stereotactic radiosurgery has recently provided an alternative to conventional radiation. With stereotactic radiosurgery the normal brain is spared the effects of the radiation, while the tumor is treated with high doses of radiation. Despite the fact that there are only a few reports in the medical literature of the use of stereotactic radiosurgery to treat pilocytic astrocytomas, the results have so far been promising.

Chemotherapy is used in the unusual case of pilocytic astrocytomas which continue to grow despite surgery and radiation.

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What is the outcome for pilocytic astrocytomas?

The outcome for pilocytic astrocytomas is generally good but depends upon the location of the tumor and the ability to completely remove the tumor. If the tumor is totally removed then the outcome is very good. Tumors which are located in the cerebellum may be easier to remove than those in the brainstem, therefore outcomes may be better for those persons who have tumors in the cerebellum.

Because there exists the possibility that pilocytic astrocytomas can reoccur even if totally removed, regular follow up with a neurosurgeon is suggested. The usual time for reoccurrence is within one to three years.

Are there any clinical trials for pilocytic astrocytomas?

There are several chemotherapy trials available, but most involve childhood astrocytomas other than pilocytic tumors. You can check the web site www.virtualtrials.com or call the National Cancer Institute for a complete list of clinical trials.

What questions should the doctor be asked if a pilocytic astrocytoma is diagnosed?

- Where is the tumor located?
- Can it be completely removed? or Was it completely removed?
- What are the risks of surgery?
- If it is not completely removed what other options are there?
- Can stereotactic radiosurgery be used?

- How often should the neurosurgeon or neuro-oncologist be seen for follow up?
- With what signs or symptoms should the neurosurgeon or neuro-oncologist be called?

Where can I go for more information?

The National Brain Tumor Foundation has resources to provide you with more information about your tumor type. Please call NBTF at 1.800.934.CURE (2873).

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The National Brain Tumor Foundation (NBTF) was founded in 1981 as a non-profit organization by people whose lives were affected by brain tumor disease. NBTF provides support services for patients and their families and raises funds for research to treat and cure brain tumors. For more information call 800.934.CURE.

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