American Brain Tumor Association

BENIGN OR MALIGNANT: WHAT IS THE DIFFERENCE?

A brain tumor is a mass of unnecessary, and abnormal, cells growing in the brain. When doctors describe brain tumors, they often use the words "benign" or "malignant." But what do those words really mean?

The adult body normally forms new cells only when they are needed to replace old or damaged ones. Infants and children complete their development by forming new cells in addition to those needed for repair. A tumor develops when normal or abnormal cells multiply when they are not needed. A clump of these cells growing in the brain is called a brain tumor.

The words “benign” or “malignant” generally refer to how unusual the tumor cells look under a microscope when compared to normal brain cells. Tumors with cells that look similar to normal cells, yet aren’t quite normal, are called “benign” tumors. Tumor cells that are very different in appearance are called “malignant.” And between the “not quite normal” and the “very unusual” are the tumors referred to as low grade or mid-grade.

But it is not always easy to classify a brain tumor as "benign" or "malignant" as many factors other than pathological appearance play a role in their outcome.

A "benign" brain tumor consists of very slow growing cells, usually has distinct borders, and rarely spreads. When viewed microscopically, the cells have an almost normal appearance. Surgery alone might be an effective treatment for this type of tumor. A brain tumor composed of benign cells, but located in a vital area, can be considered to be life-threatening - although the tumor and its cells would not be classified as "malignant."

A malignant brain tumor is life-threatening, invasive, and tend to grow at a more rapid pace than a benign tumor. Malignant brain tumors are sometimes called brain cancer even though they do not meet the true definition of “cancer.” (Since primary brain tumors rarely spread outside the brain and spinal cord, they do not exactly fit the general definition of "cancer" -- a tumor that has the ability to spread to other organs of the body. Since primary brain tumors tend to stay in the brain, they do not meet the true definition of cancer.) Thus, within the brain tumor community, you’ll hear the words "benign" or "malignant."

Benign brain tumors may be considered malignant if they are located in a part of the brain that controls vital life functions, such as heartbeat or breathing.

Some types of malignant brain tumors can spread to other locations in the brain and spine, but they rarely spread to other parts of the body. They lack distinct borders due to their tendency to send "roots" into nearby normal tissue. They can also shed cells that travel to distant parts of the brain and spine by way of the cerebrospinal fluid. Some malignant tumors, however, do remain localized to a region of the brain or spinal cord.

One other type of brain tumor is always considered malignant. Cancer cells that begin growing elsewhere in the body and then travel to the brain form “metastatic” brain tumors. For example, cancers of the lung, breast, colon and skin (melanoma) sometimes spread to the brain. All metastatic brain tumors are malignant since they began as cancer elsewhere in the body.

How do you know if your tumor is considered benign or malignant? Ask your neurosurgeon. S/he can answer this question for you.

Want to learn more? Call our office for a free copy of our book, *A Primer of Brain Tumors*, and information specific to the type of tumor that interests you. We can be reached at 800-886-2282.