

A load off your mind

Benign brain tumors can cause a range of problems, but they're treatable

► The specialist: Dr. Joshua Bederson

As professor and chairman of the Neurosurgery Department at Mount Sinai, Bederson oversees 500 benign brain tumor patients a year and 2,000 surgeries.

► Who's at risk:

"A benign brain tumor is a growth that arises from normal cells within the brain," says Bederson. "Although the growth of those cells is uncontrolled, it is not rapid enough to qualify as a malignant tumor."

Bederson draws an analogy between benign brain tumors and warts. If left untreated, these tumors can "grow to huge sizes, as big as a grapefruit," says Bederson.

The most common kind of benign brain tumor is meningioma, a tumor arising from the meninges, the membranes surrounding the brain and spinal cord. Other major forms of benign brain tumor include pituitary adenomas, acoustic neuromas, epidermoid tumors and craniopharyngioma.

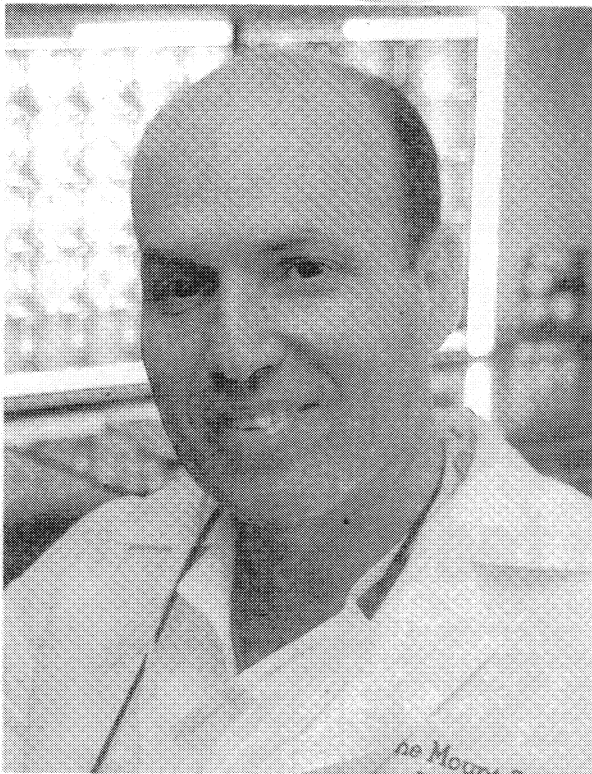
"The majority of benign tumors manifest themselves in people between the ages of 40 and 60," says Bederson. One notable exception is meningioma, a very common form of brain tumor; although meningiomas most often develop in middle age, they are also found in the young and old. Meningiomas are also most commonly found in women.

Researchers have yet to pinpoint what causes benign brain tumors. There's no implication that cell-phone use causes these tumors, and doctors haven't found any other environmental risk factor to explain them. Doctors suspect that genes are a factor, but they haven't definitively identified this connection yet. "Prior radiation treatments to the head are implicated," says Bederson, "but even then the risk is very low." In most cases, "benign brain tumors just strike out of the blue," he says.

► Signs and symptoms:

Benign brain tumors tend to grow very slowly. In many cases, the brain adapts so well to the tumor that the patient doesn't notice any symptoms. "The onset of symptoms is often insidious, and only gradually comes to the patient's consciousness," says Bederson.

Some patients can go almost completely blind in one eye before they notice something is wrong, because the other eye has compensated so well. And because benign brain tumors can be so slow to present symptoms, they are easily misdiagnosed. "The patient says, I've got this funny headache; things don't taste right," says Bederson, "And that can go on for months or years, until an MRI is done, and everyone is stunned to learn there is a tumor."



Most benign brain tumors seem to "strike out of the blue," says Mount Sinai's Dr. Joshua Bederson.

RICHARD HARBUS

The symptoms of a benign brain tumor depend on its size and location. "A tumor growing near the optic nerve could cause visual loss when the tumor is still very small, like the size of a grape," says Bederson, "while a tumor in the convexity or surface of the brain can reach the size of a plum or grapefruit before it shows symptoms."

Some general signs include persistent headaches that are new and unusual, persistent nausea that is new and unusual, and loss of any neurological function, which can take the form of numbness, weakness and tingling, especially on one side of the body. Once brain tumors reach a certain size, they can also cause seizures.

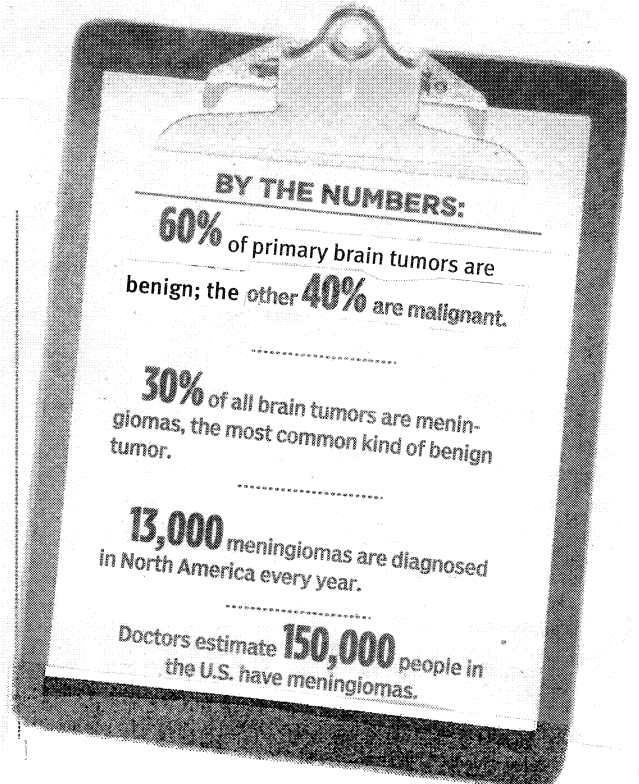
The symptoms caused by a tumor depend on which nerves are affected. Pituitary adenomas affect endocrine output, so people experience things like irregular periods, abnormal lactation (in both men and women) and abnormal growth. Acoustic neuroma causes hearing loss, and craniopharyngioma often causes visual loss.

► Traditional treatment:

Thankfully, benign brain tumors are something doctors are now able to manage or cure — sometimes without surgery. "The initial diagnosis is terrifying," says Bederson, "but it's important to keep in mind that we can get our patients through this."

The good news is that benign brain tumors are rarely fatal. "Yet they can cause disability once they become symptomatic," says Bederson, "so it's important to treat them early on."

There are three main ways of dealing with benign brain tumors: observation, surgery and radiation. First of all, "not every benign brain tumor needs to be removed," says Bederson. For instance, a doctor might advise a patient to take the "watchful waiting" approach for a small meningioma growing slowly in an area where it doesn't interfere with essential cognitive function.



The other main treatment methods are surgery and radiation of various types, sometimes in combination. "The vast majority of benign tumors are permanently cured by simple and safe surgical removal. In certain cases when the tumor involves critical structures we'll remove 90 to 99%, and we observe the rest," says Bederson, "Then, if it shows it wants to grow back, we can use radiation to combat the recurrent growth. So we might operate, then observe, then radiate."

► Research breakthroughs:

New surgical approaches allow doctors to treat brain tumors more effectively. "There are rapidly evolving surgical approaches that allow us to remove many tumors through the nose," says Bederson, a technique that allows for a quicker recovery.

"The endoscopic and minimally invasive approach is the most exciting thing that's come along in a long time. It's transforming our approach," he notes. "Often patients can go home from the hospital on the next day."

For selected tumors, stereotactic radiosurgery has become the primary treatment. "Stereotactic radiosurgery has extremely low morbidity rates," says Bederson. "For these treatments, you can be back to work in a few hours." This approach delivers a high-dose of radiation to the tumor with a high level of precision. It usually takes a series of treatment sessions because "it takes a while for the tumor to melt away," says Bederson.

► Questions for your doctor:

Not all benign brain tumors require radical intervention, and in some cases you can take a wait-and-see approach. A good first question: "Is conservative management an option?"

"That would mean observation over time with serial MRI scans, first every six months and eventually every year," explains Bederson, who adds: "We always try to approach these benign tumors by not cutting first."

The next key questions are, "Is stereotactic radiosurgery an option for my tumor?" and "Are there any minimally invasive or endoscopic-assisted approaches for this tumor?" Knowing your options is your best defense. ♦

knowledge is power

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