CHAPTER 12

Tumors in the Head – Meningiomas, Pituitary Tumors and Acoustic Neuromas

Fear is life’s one true opponent. It is a clever, treacherous adversary. Disguised as doubt it slips into your mind as a spy...you make rash decisions. You dismiss your last allies: hope and trust. You must fight hard to express it... to shine the light of words upon it. Because if you don’t... if your fear becomes a wordless darkness that you avoid, perhaps even manage to forget, you open yourself to further attacks... because you never truly fought the opponent who defeated you.

Yann Martel 2001¹
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MENINGIOMAS - GENERAL QUESTIONS

WHAT IS A MENINGIOMA? HOW COMMON ARE THEY?

A meningioma grows out from the meninges, which are coverings of the brain and spine. It occurs frequently in people with a hereditary disorder called neurofibromatosis type two, NF-2, not type 1. (See Chapter 24: Heredity and other causes.) Meningiomas represent about 20 percent of all tumors originating in the head and 10 percent of tumors of the spine. (See Chapter 2, Figure 2-1.) This means that about 6,500 people are diagnosed with meningiomas each year in the U.S. Most tumors do not invade or spread. Many can become quite large; diameters of 2 inches (5 cm) or more are common.

ARE MENINGIOMAS A FORM OF CANCER?

This is a frequently asked question. I answered it on an Internet website:

Question: There has been a lot of discussion within the meningioma community about a meningioma as being “benign.” The implication is that a meningioma is not harmful, which of course is not true. What is your opinion?

Answer: Most meningiomas are called “benign” because they are a form of low-grade, slow-growing “cancer” with a low potential to spread. Those that are incompletely removed by surgery will be treated with radiation therapy, since they respond and can be cured with this. I think the word “cancer” frightens a lot of us, and we would prefer not to use it. It is emotionally charged. Physicians and scientists use the term more liberally since they view cancer in a less personal context.

(You might want to go back to Chapter 2, where I discuss how the modern interpretations of Noah and the Ark highlight the emotional challenge of the word “cancer” and how you might become less sensitive to its use.)
WHAT ARE TYPICAL SYMPTOMS OF MENINGIOMA?

Symptoms that lead people to seek medical consultation depend upon location of the tumor. Common symptoms are pain (headache) for weeks to months, weakness or paralysis, visual field cuts, or speech problems (Table 12-1).

WHAT ARE MY CHANCES OF CURE WITH A MENINGIOMA?

Eighty-five percent of all people with meningiomas are cured with surgery. In other words, the tumors do not return after removal. Location, the amount of the tumor that is removed by surgery, and the skill of the neurosurgeon are the important elements in predicting a successful result. The goal of the operation is to remove the meningioma completely, including fibers that attach it to the covering of the brain (dura) and bone.

DIAGNOSIS

HOW IS A MENINGIOMA DIAGNOSED?

For most people, symptoms cause them to consult their doctor. Only an MRI scan can give the most definitive diagnosis of a meningioma. Sometimes a computed tomography (CT) scan is obtained initially as a screening scan in the evaluation of a headache; it’s a less expensive diagnostic tool. The CT scan is better in showing whether or not the tumor has invaded the bones of the skull, but is not best for details of the brain itself.

How Are Meningiomas Classified or Graded?

Meningiomas are classified by pathologists into three types:
• Grade 1 – benign, very slow-growing tumors (75 percent of all meningiomas)
• Grade 2 – atypical, usually slow growing but can recur
• Grade 3 – anaplastic (more malignant, faster-growing)

The 15 percent of meningiomas that recur often progress to a higher grade. Grade 2 and 3 tumors recur more frequently than grade 1 growths (Table 12-2).
DOES THE LOCATION OF MY MENINGIOMA MAKE A DIFFERENCE?

Yes. Again, as in the price of real estate, the answer is “location, location, location.” Meningiomas are more frequent in some locations and rarer in others. The ease of removing them is dependent upon both their accessibility and the skill of the neurosurgeon. Where is your meningioma? (See Table 12-1.)

Table 12-1 Most Common Sites and Symptoms for Meningiomas in the Head

<table>
<thead>
<tr>
<th>Location</th>
<th>% of Total</th>
<th>Common Symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frontal-Parietal</td>
<td>20</td>
<td>Seizures, local neurological deficits, intracranial high pressure, headache, extremity weakness, personality changes, dementia, urinary incontinence, difficulty speaking, visual field loss</td>
</tr>
<tr>
<td>Midline</td>
<td>25</td>
<td>Seizures, local neurological deficits, intracranial high pressure, lower extremity weakness, sensory seizures, headache, personality changes, dementia, increasing apathy, flattening of affect, unsteadiness, tremor</td>
</tr>
<tr>
<td>Sphenoid Ridge</td>
<td>18</td>
<td>Eye bulging, decreased visual acuity, cranial nerve (III, IV, V, VI) palsies, seizures, memory difficulty, personality change, headache</td>
</tr>
<tr>
<td>Posterior Fossa</td>
<td>10</td>
<td>Unsteadiness and incoordination, hydrocephalus (increased pressure inside the brain &amp; large ventricles), voice and swallowing difficulties</td>
</tr>
<tr>
<td>Pituitary Gland</td>
<td>8</td>
<td>Lateral field visual deficit</td>
</tr>
<tr>
<td>Olfactory Groove</td>
<td>7</td>
<td>Loss of smell (anosmia), subtle personality changes, mild difficulty with memory, euphoria, diminished concentration, urinary incontinence, visual impairment</td>
</tr>
<tr>
<td>Optic Sheath</td>
<td>5</td>
<td>Decreased vision in one eye</td>
</tr>
<tr>
<td>Other, including head and spine</td>
<td>7</td>
<td>Variable depending on location</td>
</tr>
</tbody>
</table>

If the meningioma is near the surface and has not invaded deep structures or major blood vessels, resection (tumor removal by surgery) can be carried out safely. If it invades any of the large draining veins, major arteries of or on the brain surface, or if it is on the underside of the brain, chances of a complete resection decrease and risk of complications increases. The experience of the neurosurgeon is critical. (See Chapter 5: Doctors and Other Team Members.)

Bottom line: Ease of removing a meningioma is dependent upon accessibility and skill of your neurosurgeon.