THE HINDU METROPLUS

Madurai

Saturday, January 17, 2015

Neuro NEWSLINE

(A Health Awareness Initiative)

Your Faith Shall Heal

Hannah Joseph Hospital

Institute of Neurosciences & Trauma

"Headache is one of the commonest symptom of a brain tumour and it usually worsens in the morning while waking up from bed"

CONCEPTS ABOUT BRAIN TUMOUR

Brain tumours are formed due to proliferation and accumulation of abnormal cells to create a mass. There are no specific reasons for a brain tumour to develop, though people who are exposed to radiation to the head are at higher risk and notably the children. Some genetic conditions like neurofibromatosis predispose to development of tumours in the brain and spinal cord. Approximately 35,000 cases of brain tumours are diagnosed in the world per year - quite a high incidence! People who are more than 65 years of age happen to be 4 times more at risk to develop a brain cancer than the younger generation.

The brain tumours are classified in many ways, commonly they are either non-cancerous (benign) or cancerous (malignant). They are called primary tumours when they arise from the brain tissue or secondary (metastatic) tumours if they originate in some other part of the body and later spread to the brain. In general the cancerous tumour grows very rapidly and causes symptoms earlier than a benign non cancerous growth. The symptoms and signs of a tumour is determined by its location inside the brain and its aggressive nature.

Astrocytomas (Glioma) are supposedly the most common brain tumour with an estimated 12,000 plus new cases being reported from the United States alone per year. Oligodendroglioma and Glioblastoma multiforme (the most malignant of the brain cancers) belong to the group of Gliomas. Meningioma, Craniopharyngioma, Schwannoma (neuroma), Hemangioblastoma, Epidermoid / dermoid tumours and Pituitary adenoma are some of the benign or non cancerous tumours.

SYMPTOMS

The commonest presentation of a brain tumour is usually a rapidly progressive neurological illness (cancerous growth). Weakness of the limbs along with difficulty in speech in some cases (where the tumour is in the left side of the brain) are found in 45% and headache is the presenting symptom in 54% of the cases. Seizures or fits may be the first warning sign that can happen in 26% of the patients who harbour a brain tumour whether benign or malignant. Paralysis of the limbs occur due to destruction of the brain tissue by tumour invasion or compression of the brain by the tumour.

Headache is one of the commonest symptom of a brain tumour and it usually worsens in the morning while waking up from bed. It is often exacerbated by coughing, straining and sometimes bending forwards and placing the head in a dependant position. Nausea and vomiting are also associated with severe headache, and vomiting do temporarily relieve the headache. These features of a headache along with focal weakness of the limbs and seizure/fit were thought to differentiate this as a 'tumour headache' rather than a common migraine. Some patients do have deterioration of vision or partial blindness and double vision as a presenting symptom. Tumours that affect the brain stem and cranial nerves can produce difficulty in swallowing and chewing, and sometimes deafness too.

DIAGNOSIS

A CT scan or MRI with contrast is done for those who present with these symptoms & signs. Usually the scan shows the tumour mass and its location, the critical areas involved or that may be involved during the course of surgery to excise the same. In some cases the MR A (angiogram) has been useful to know the vascularity of the tumour and it's proximity to the vessels that supply the normal brain. This helps the neurosurgeon to avoid any damage to the blood vessels that is supplying the critical structures during the course of surgery.

TREATMENT

Steroids reduce brain edema and gives the patient a symptomatic relief of headache and it's temporary. It also helps to recover motor weakness and vision for a short period of time. Therefore a patient who has a brain tumour has some time to plan out for the 'definitive' treatment which includes surgical treatment / biopsy. Anticonvulsant drugs help to prevent seizures or fits.

Surgery remains the 'mainstay' of treatment for brain tumours. It is supported by radiation therapy and chemotherapy if the biopsy turns out to be a malignant lesion (tumour). Benign tumours are almost totally removed by microsurgical means except in those few cases where it involves blood vessels, cranial nerves and other vital structures whose damage can be permanent or sometimes life threatening. In such cases the neurosurgeon resorts to subtotal/near total removal of the remour and give radiation for the residual part, and this happens to be an internationally accepted norm. Stereotactic surgery/biopsy is done for those deep seated tumours for getting at the diagnosis (pathology) so that other forms of therapy can be instituted. Apart from conventional radiation therapy, X knife, gamma knife and cyber knife radiation therapy are available now for treating the residual tumours. Many of these microsurgery and endoscopic assisted surgeries are done with intraoperative neurophysiological monitoring so that damages to the vital neural structures are minimised. Some patients may require a shunt surgery in addition when these tumours lead to secondary hydrocephalus (ventricular dilatation caused by obstruction of cerebrospinal fluid pathways).

The ultimate prognosis and outcome depends on the nature of the tumour. Benign tumours when removed totally by surgical means offers the best results with very low recurrence rates. However the prognosis and long term survival varies in cancerous (malignant) tumour, and it entirely depends on the grade / stage of the tumour. The higher the grade of malignant tumour, the poorer the outcome and long term survival. Early diagnosis and prompt surgical treatment paves way for an excellent outcome and longevity. ■

Author

Dr. M. J. ARUNKUMAR, M. Ch., DNB

Senior Consultant Neurosurgeon

Founder Chairman & Managing Director

Hannah Joseph Hospital, Madurai.