For enquiries and appointments,
please contact us

HKSH Neurosurgery Centre

Happy Valley
Hong Kong Sanatorium & Hospital
3/F, Central Block
2 Village Road, Happy Valley, Hong Kong
(852) 2835 3750 (852) 2892 7432
neurosurgery@hksh-hospital.com
www.hksh-hospital.com

Service Hours

Monday to Friday	9:00 am – 5:00 pm
Saturday	9:00 am – 1:00 pm

Closed on Sundays and Public Holidays

Consultation by Appointment

NSC.004I.H/E-03-102025

www.hksh.com

Brain Tumour

HKSH Neurosurgery Centre

Types of Adult Brain Tumours

A brain tumour is an abnormal growth of cells in the brain. There are over 150 types of brain tumours classified by the World Health Organisation. The easier way is to classify them into benign and malignant. While the former is more common, some benign brain tumuors can be infiltrative and behave aggressively. Meningiomas are the most common benign brain tumours occurring more on the surface of the brain, but they can be found in the skull base, on the underside of the brain as well. Other benign brain tumours include schwannomas and pituitary tumours.

On the other hand, malignant brain tumours can be classified as primary and metastatic. Among primary brain cancers, glioblastoma multiforme (GBM) is the most common type and has the worst prognosis. Metastatic malignant brain tumours come from cancers in lung, breast, colon or other organs. There can be solitary or multiple lesions at the time of presentation. The primary tumour sometimes may be asymptomatic and can only be identified by investigations.

Symptoms

The symptoms of brain tumours are extremely diverse, depending on the location, size and growth rate of the tumours. For example, a brain tumour in the right frontal lobe can affect the patient's mood and personality, leading to headache and seizures; a brain tumour in the left temporal lobe may cause speech problem, memory loss, or even auditory hallucination or delusion; if a brain tumour occurs in the parietal lobe, the patient may suffer from hemiplegia.

There are twelve pairs of cranial nerves in the human brain, each of which is responsible for different senses. Most skull base tumours may affect the functions of these cranial nerves. For example, if a brain tumour involves the first set of cranial nerves, the sense of smell will be affected; if the second pair is affected, the patient will have visual problems. Double vision, facial pain, hearing loss, impaired taste, swallowing difficulties, tongue weakness, etc. may occur due to involvement of the third to twelfth set of cranial nerves.

Diagnosis

Since symptoms from brain tumour can be very diversified, doctors need to be highly vigilant. CT, MRI and/or PET scans may be required for more detailed work-up. For some small brain tumours, such as pituitary tumours or acoustic neuromas, a routine MRI scan may miss the lesion. Doctors may need to order MRI scans of specific regions with appropriate protocols to make a proper diagnosis.

Personalised Treatment

Although various international guidelines and clinical formulations are available for many types of brain tumours, a personalised plan for the individual patient is the key to treatment success.

The treatment plan of a brain tumour is determined by the tumour type and patient-specific factors. The goal is to maintain quality of life, maximise survival and neurological functions, and minimise unnecessary intervention.

- For benign tumours that are small and asymptomatic, clinical observation and regular MRI examinations are sufficient;
- If there is a malignant tumour or a benign tumour with symptoms, surgical intervention is usually required. Tissues may be extracted by minimally invasive biopsies for pathological and molecular analysis to guide treatment, or craniotomies may be required for gross total excision whenever applicable, or to remove the largest extent of tumour under safe conditions to relieve symptoms;
- Adjunct therapy such as stereotactic radiosurgery, chemotherapy, radiotherapy, targeted therapy or immunotherapy can then be arranged in various combinations accordingly;
- Sometimes, even large-sized tumours, such as macro-prolactinoma of the pituitary respond well to medical therapy without the need for surgery.

Our team values patient engagement and empowerment during treatment and recovery. Doctors would put together a personalised plan of care that is tailor-made to achieve the best outcome.

References:

1. Louis et al. (2016). The 2016 World Health Organization Classification of Tumors of the Central Nervous System: a summary. *Acta Neuropathologica* (2016) 131:803–820
2. Wong et al. (2021). Overview of the clinical features and diagnosis of brain tumors in adults. https://www.uptodate.com/contents/overview-of-the-clinical-features-and-diagnosis-of-brain-tumors-in-adults/
3. Louis et al. (2020). Central Nervous System Cancers, Version 3.2020, NCCN Clinical Practice Guidelines in Oncology. *Journal of the National Comprehensive Cancer Network*: JNCCN , 2020 Nov 2;18(11):1537-1570

Personalised Treatment

Brain Tumour Patient Journey

Symptomatic or Present with Neurological Deficit

Incidental Finding: Suspected Tumour on Brain Imaging

Brain Tumour Already Known

HKSH Clinical Neuroscience Centre within Office Hours

HKSH Family Medicine and Primary Care Centre (Happy Valley) for Non-office Hours Working Day Referral to HKSH Clinical Neuroscience Centre

Clinical Assessment by Neurosurgeon

Further Investigations to Delineate the Nature of Suspected Tumour e.g. Blood Work, CT, MR, PET/CT, etc.

Brain Tumour Diagnosed

Personalised Treatment Proposed

Active Surveillance for Asymptomatic, Small and Benign Brain Tumours

Multidisciplinary Treatment with Therapeutic Synergy

- Neurosurgery
- Stereotactic Radiosurgery
- Radiation Therapy
- Chemotherapy
- Targeted Therapy
- Immunotherapy
- Neuro-rehabilitation

High-risk Group for Brain Tumour Screening may include:
History of cancer, genetic diseases, e.g. tuberous sclerosis, neurofibromatosis, previous brain irradiation in childhood, etc.