

STANDARD TREATMENT WORKFLOW (STW)

SUSPECTED BRAIN TUMORS

S S Kale¹, Sunil Singh², Toni Abraham³, Sandeep Mohindra⁴, A K Attri⁵, Murugesan⁶, Raj Kumar⁷, Nupur Pruthi⁸, AS Ramesh⁹, V.Raj Shekhar¹⁰, K.V.Menon¹¹, Deepak Gupta¹², Sanjay Behari¹³, Arun Kumar Yadav¹⁴

¹All India Institute of Medical Sciences Delhi; ²Apollo, Lucknow; ³Christian Medical College Vellore Tamil Nadu;

⁴Post Graduate Institute of Medical Education & Research Chandigarh; ⁵Government Medical College & Hospital, Chandigarh; ⁶Coimbatore Medical College; ⁷Saifai Rural Inst; ⁸National Institute of Mental Health and

Neuro Sciences, Bengaluru; ⁹Jawaharlal Institute of Postgraduate Medical Education and Research, Pondicherry; ¹⁰Christian Medical College Vellore, Tamil Nadu; ¹¹Rajagiri Hospital, Kerala; ¹²All India Institute Of Medical Sciences Delhi; ¹³Sanjay Gandhi Postgraduate Institute of Medical Sciences Lucknow, Uttara Pradesh;

¹⁴Armed Forces Medical College, Pune Maharashtra

CORRESPONDING AUTHOR

S S Kale All India Institute of Medical Sciences Delhi

Email: neurosurgeryoffice@gmail.com

CITATION

Kale SS, Singh S, Abraham T, Mohindra S, Attri AK, Murugesan, Kumar R, Pruthi N, Ramesh AS, Shekhar VR, Menon KV, Gupta D, Behari S, Yadav AK. SUSPECTED BRAIN TUMORS Journal of the Epidemiology Foundation of India. 2024;2(2Suppl):S279-S280.

DOI: <https://doi.org/10.56450/JEFI.2024.v2i2Suppl.013>

This work is licensed under a Creative Commons Attribution 4.0 International License.

@The Author(s). 2024 Open Access

DISCLAIMER

This article/STW, was originally published by Indian Council of Medical Research (ICMR) under Standard Treatment Workflow. The reprinting of this article in Journal of the Epidemiology Foundation of India (JEFI) is done with the permission of ICMR. The content of this article is presented as it was published, with no modifications or alterations. The views and opinions expressed in the article are those of the authors and do not necessarily reflect the official policy or position of JEFI or its editorial board. This initiative of JEFI to reprint STW is to disseminate these workflows among Health Care Professionals for wider adoption and guiding path for Patient Care.

1000 / JMC



Department of Health Research
Ministry of Health and Family Welfare, Government of India



icmr
INDIAN COUNCIL OF
MEDICAL RESEARCH
Serving the nation since 1951

Standard Treatment Workflow

SUSPECTED BRAIN TUMORS

ICD-C71, D33

DEMOGRAPHICS

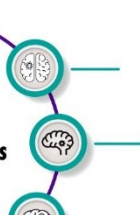
Brain tumors are seen with equal frequency in males and females

Astrocytoma is the commonest brain tumor in children followed by embryonal tumor

Meningioma is the commonest tumor in adults followed by glioma

CLINICAL PRESENTATION OF BRAIN TUMORS

SYMPTOMS



Recent onset headache, with or without vomiting

Seizures

Focal deficit like

Gradual vision loss (unilateral/bilateral)

Cranial nerve deficits (eg. hearing loss)

Increasing head-size

HIGH INDEX OF SUSPICION FOR BRAIN TUMOR WHEN PATIENT HAS:

- Adult onset seizures
- Progressive symptoms
- Focal neurological deficits
- Severe headache
- Recurrent vomitings
- Blurring of vision
- Drowsy or altered sensorium
- Recurrent seizures
- Pupillary asymmetry – Anisocoria
- Abnormal posturing

Standard Treatment Workflow
SUSPECTED BRAIN TUMORS
ICD-C71, D33

DEMOGRAPHICS

Brain tumors are seen with equal frequency in males and females	Astrocytoma is the commonest brain tumor in children followed by embryonal tumor	Meningioma is the commonest tumor in adults followed by glioma
---	--	--

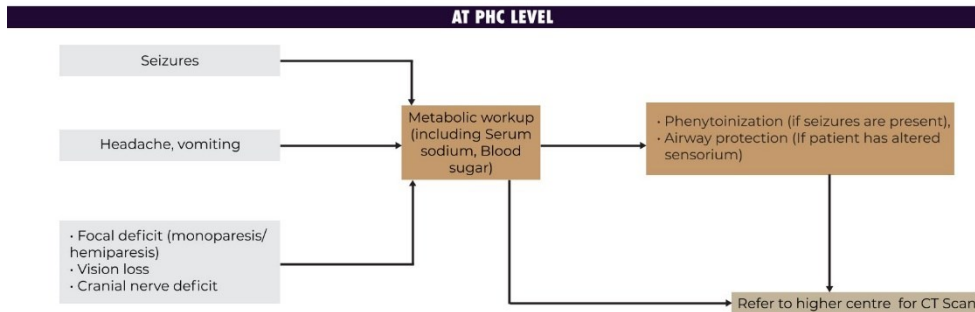
CLINICAL PRESENTATION OF BRAIN TUMORS

SYMPTOMS

Recent onset headache, with or without vomiting	Gradual vision loss (unilateral/bilateral)	<p>HIGH INDEX OF SUSPICION FOR BRAIN TUMOR WHEN PATIENT HAS:</p> <ul style="list-style-type: none"> Adult onset seizures Progressive symptoms Focal neurological deficits Severe headache Recurrent vomitings Blurring of vision Drowsy or altered sensorium Recurrent seizures Pupillary asymmetry - Anisocoria Abnormal posturing Respiratory distress, abnormal breathing patterns Bradycardia and hypertension
Seizures	Cranial nerve deficits (eg. hearing loss)	
Focal deficit like monoparesis, hemiparesis	Increasing head-size (children with open fontanelle)	

IF RED FLAG SIGNS PRESENT

- Give Inj Dexa 4mg IV
- Loading dose of antiepileptic to prevent seizure
- 200ml (to adult patients or as per weight to children) 20% mannitol IV over 30 minutes (only if systolic BP > 90 mmHg) and refer to higher centre immediately after stabilisation of ABC



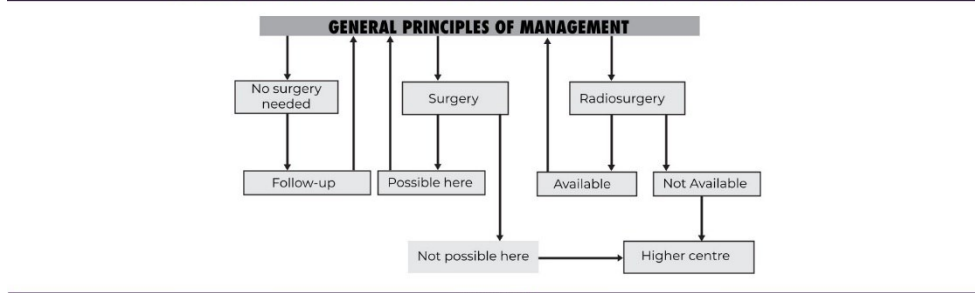
AT CENTRE WITH MRI SCAN FACILITY & NEUROSURGERY

MRI SCAN

Negative	Positive
Medical management	Refer to higher centre for further workup (Medical College / Cancer Hospital, with neurosurgery and MRI Scan facility)

MRI image of Meningioma

MRI image of Glioblastoma



REFERENCES

- Jaiswal J, Shastry AH, Ramesh A, Chickabasaviah YT, Arimappaganan A, Santosh V. Spectrum of primary intracranial tumors at a tertiary care neurological institute: A hospital-based brain tumor registry. *Neurol India*. 2016 May-Jun;64(3):494-501. doi: 10.4103/0028-3886.181535. PMID: 27147159.
- Dasgupta A, Gupta T, Jalali R. Indian data on central nervous tumors: A summary of published work. *South Asian J Cancer*. 2016 Jul-Sep;5(3):147-53. doi: 10.4103/2278-330X.187589. PMID: 27606302; PMCID: PMC4991137.

KEEP A HIGH THRESHOLD FOR INVASIVE PROCEDURES

This STW has been prepared by national experts of India with feasibility considerations for various levels of healthcare system in the country. These broad guidelines are advisory, and are based on expert opinions and available scientific evidence. There may be variations in the management of an individual patient based on his/her specific condition, as decided by the treating physician. There will be no indemnity for direct or indirect consequences. Kindly visit the website of ICMR for more information: icmr.gov.in for more information. ©Indian Council of Medical Research, Ministry of Health & Family Welfare, Government of India.