

Brain Tumours
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a) Classification

1. Primary:

- **Supratentorial** (most adult tumours)
- **Infratentorial** (most childhood tumours)

■ Secondary:

Lung, breast, skin, kidneys, etc.

2. Histological Classification of Primary Brain Tumours

- **Brain Coverings:** Meningioma

- **Glial Tumours:**

Adults &
children
Mostly adults

Astrocytoma (grade I-IV)
Oligodendroglioma
Ependymoma
Choroid Plexus Papillomas
(Pinealomas)
(Pituitary Tumours)

Mostly childhood
tumours

Brainstem gliomas
Optic Nerve gliomas

- **Neuronal Elements:**
e.g. Ganglioneuromas
- **Mixed Neuronal/Glial:**
Gangliogliomas
- **Connective Tissues:**
e.g. Haemangioblastoma
- **Primitive Cells:**
Primitive neuroectodermal tumours;
medulloblastoma
- **Others:**
Colloid cyst, arachnoid cyst, epidermoid/dermoid cyst

b) Clinical Presentation

1. Localising Neurological Signs

- **Epilepsy:** Jacksonian (or generalised)
- **Frontal Lobe:** Anosmia (olfactory groove meningioma)
Dementia
Urinary Incontinence
Organic Brain Syndrome
Hemiparesis/-plegia
Conjugate Deviation of Eyes
Aphasia

■ Temporal Lobe:

Temporal lobe epilepsy

■ Parietal Lobe:

Hemisensory changes
Sensory Apraxia

■ Occipital Lobe:

Visual field changes

■ Chiasmatic lesions:

Visual field changes
Blindness - Unilateral
- Bilateral

■ Posterior Fossa:

Cranial nerve palsies
Long tract signs
Obstructive hydroceph.

■ **Pituitary tumours**
(secreting ones)

- Acromegaly/giantism
- Cushing's syndrome
- Hyperprolactinaemia
(infertility +
galactorrhoea)
- Hypopituitarism

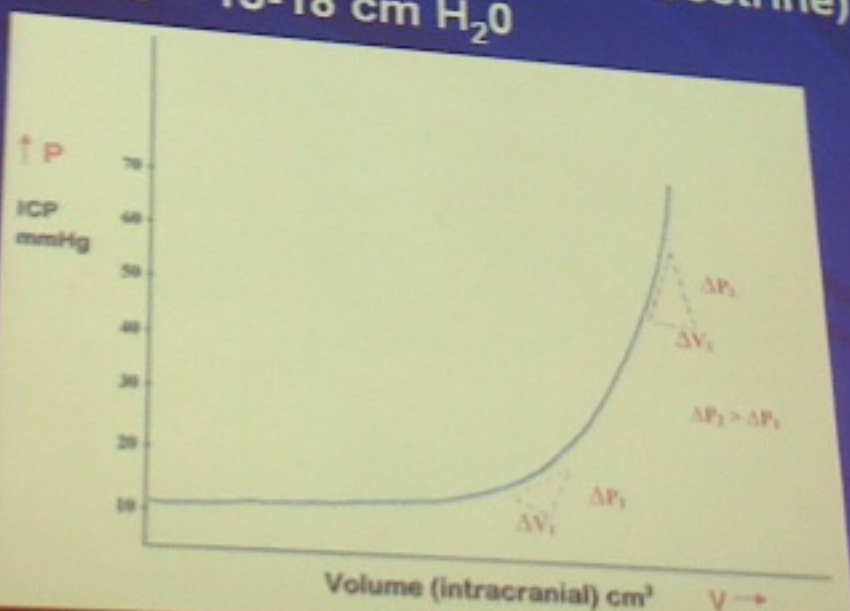
2. Raised Intracranial Pressure (ICP)

Intracranial
Contents

Brain
Blood
CSF

Volumetric balance
to maintain normal ICP

N ICP = 10mmHg (= Monro-Kellie Doctrine)
LP Pressure = 15-18 cm H₂O



For brain tumours (slow growth),
intracranial pressure rises late

Clinically: 1. Headache – throbbing/heavy
Early morning
- (Cushing's
Triad) 2. Vomiting – projectile. Not related
to feeds. Strong desire
to feed (cf G/E)
3. Papilloedema – Grade I-IV
2° Optic Atrophy
↓
Blindness

- Coning

- Tentorial Herniation
 - Unilateral
 - Central
- Foramen Magnum

c) Investigations

General:

- FBC, U&E, Clotting Profile
- CXR
- Search for Primaries, e.g. abdominal sonars

c) Investigations (cont)

Specific

- X-rays - skull
 - tomograms (eg meatal tomos for acoustic neuromas)
- CT Brain – non-contrast
 - contrast
- Angiograms
- NMR (Nuclear Magnetic Resonance Scans)

d) Treatment

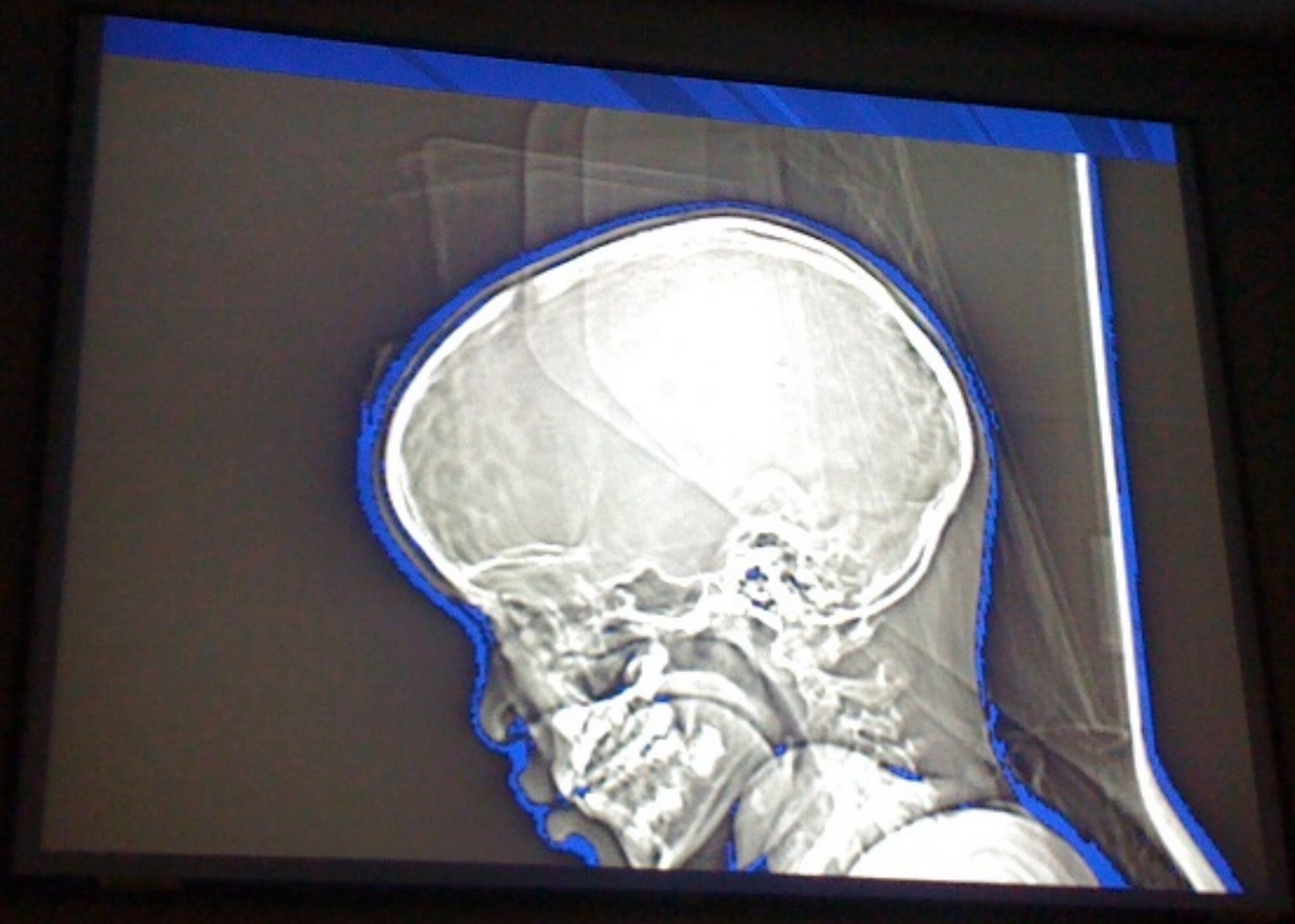
- VP shunt – if obstructive hydrocephalus
- Surgical - removal – if operable and safe
 - biopsy: If non-operable,
(i.e. not well-defined or not
safe for total removal)

d) Treatment (cont)

- **DXT** (Radiation therapy/deep X-ray therapy)
(Depending on the histological diagnosis)

- **Chemotherapy**
e.g. – lymphomas
 medulloblastoma, etc.

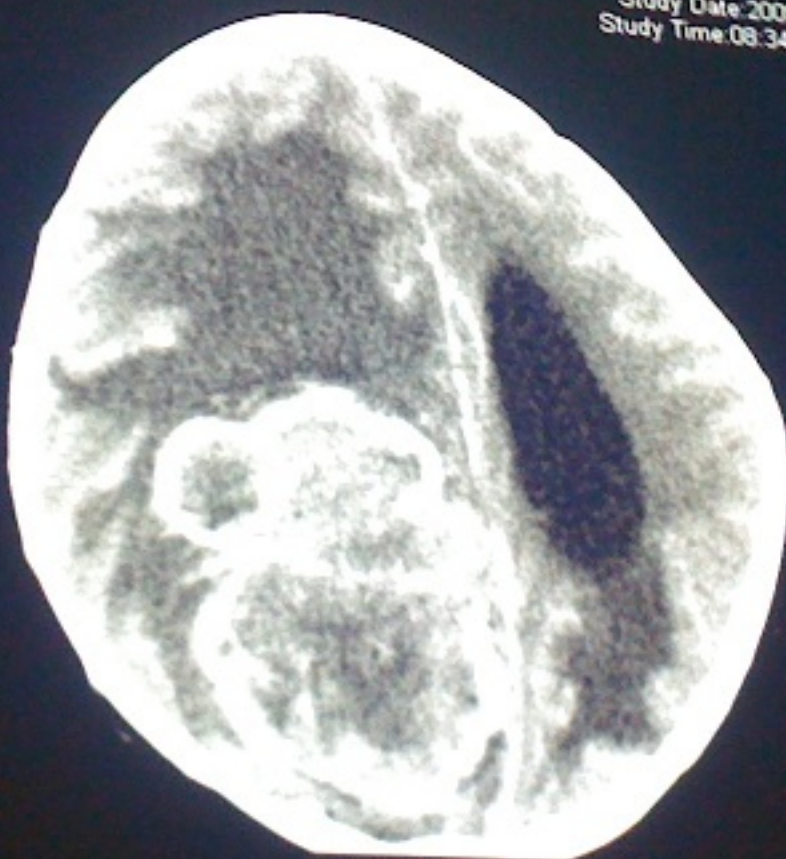
(Also depends on histology)



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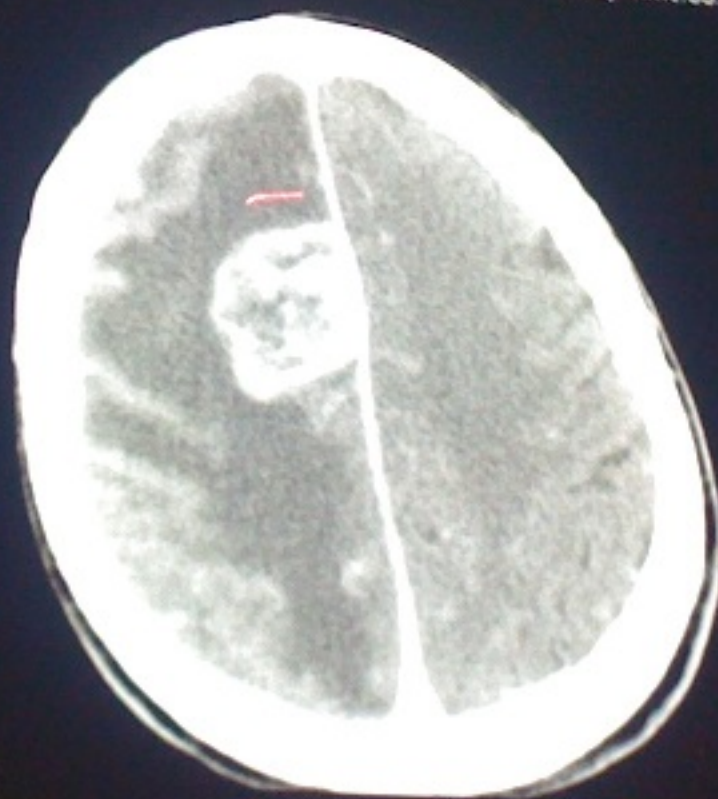
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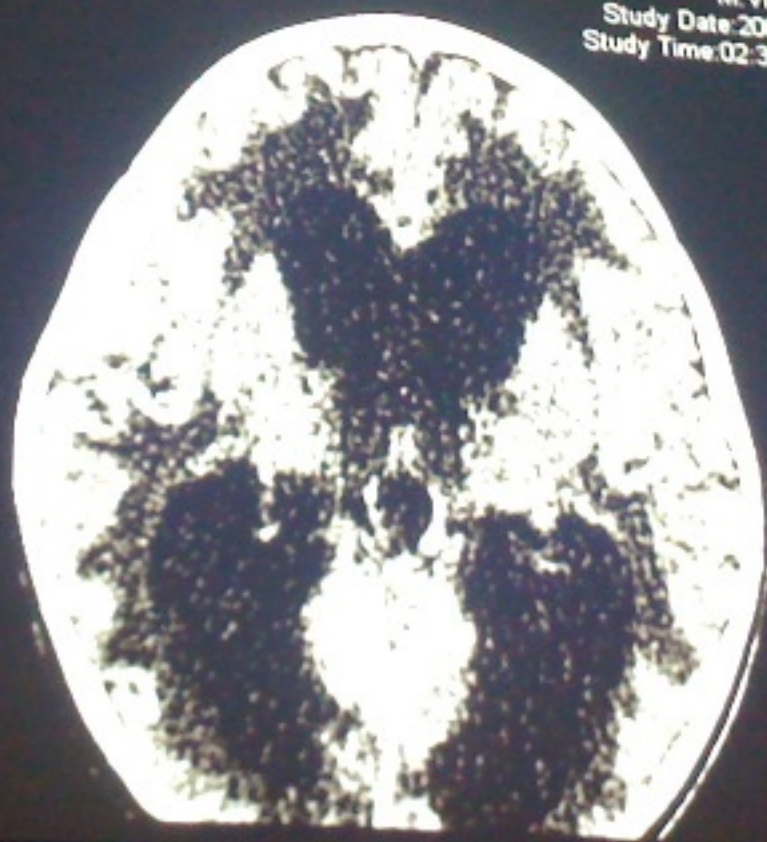


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