Patient’s general data

- Sex: Female
- Age: 47
- Occupation: None

Chief Complaint

- Headache for 3 months and mental disturbance for 1 day

Present illness

- Frequent headache since 3 months ago, patient cannot describe the character of pain
- Unsteady gait since 1 month ago
- Depression and apathy were noted in the day before admission

Present illness (con't)

- Visited our psychiatry OPD and abnormal EEG was found
- Lethargy on the day of admission and came to ER for help

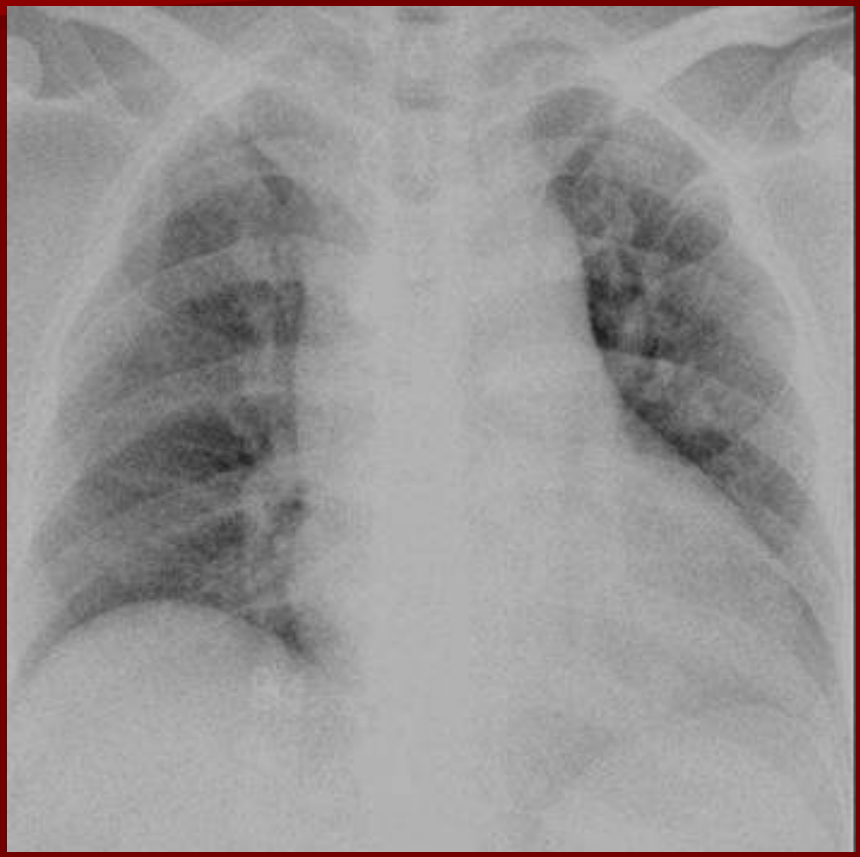
Past History

- Prior cesarean section
- No systemic illnesses

Physical examination

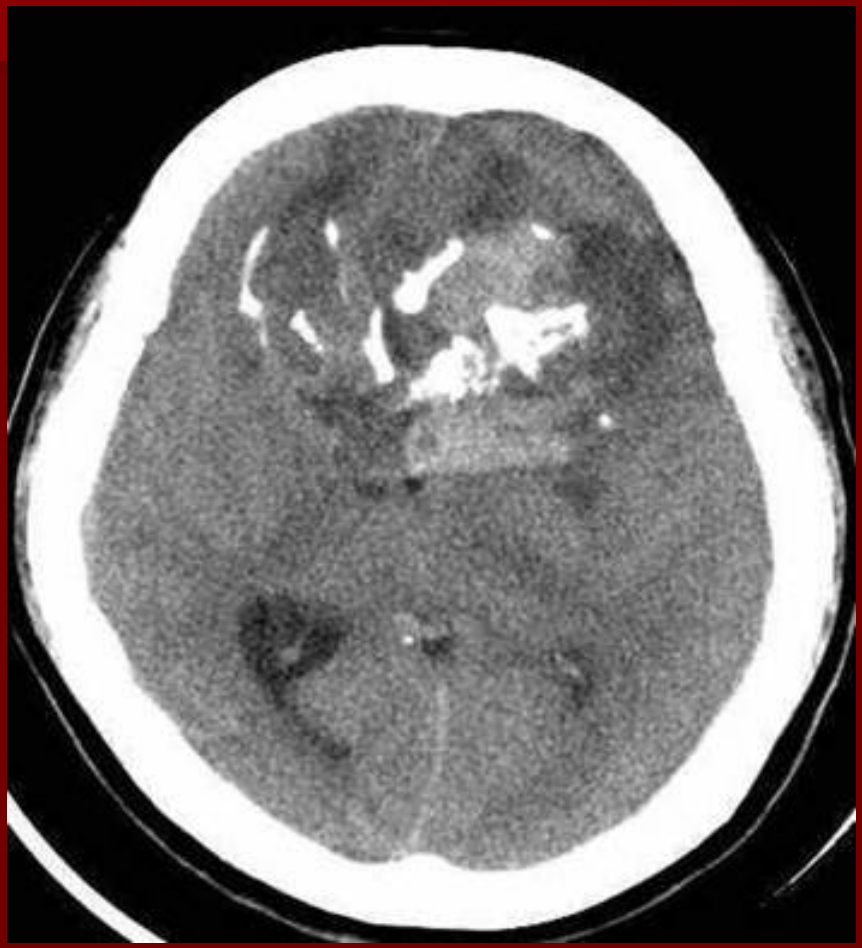
- General appearance: chronic ill-looking
- Consciousness: E4M6V4, stuporous & apathy
- Muscle power: full, but psychomotor retardation
- Laboratory data all within normal range

Chest X-ray (92.6.17)



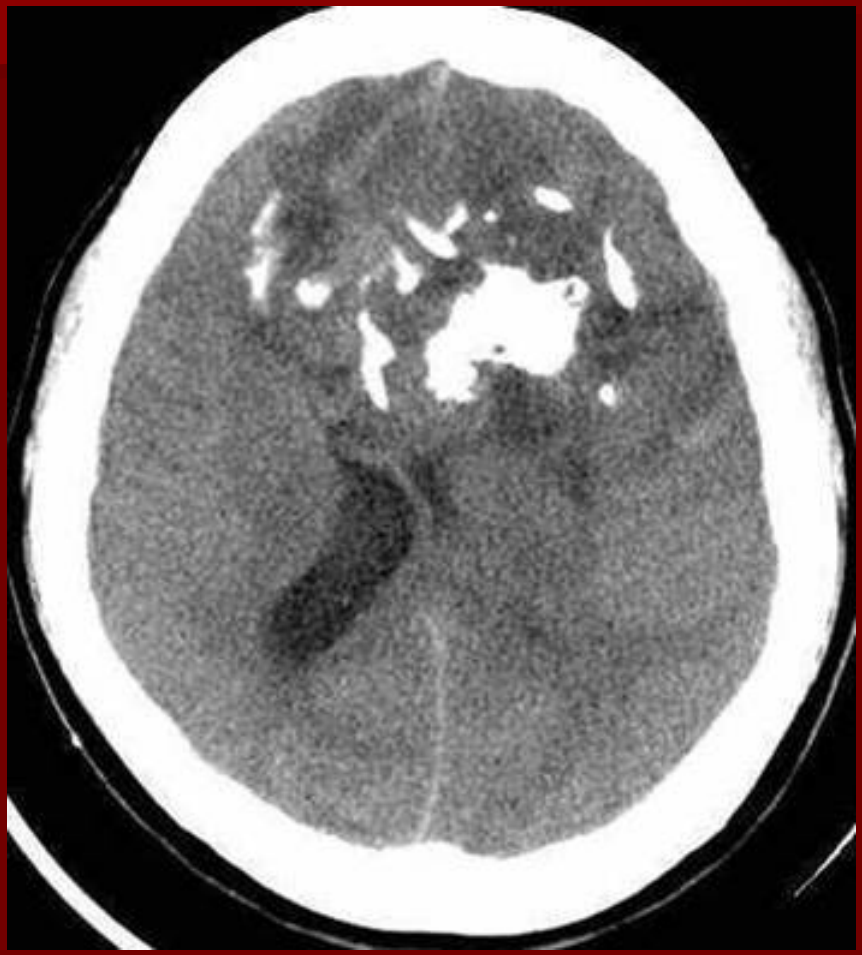
- Lateral bulging of the right superior mediastinum due to enlarged superior vena cava
- Cardiomegaly
- Interstitial pulmonary edema and engorged pulmonary vessels probably due to congestive heart failure

Non-enhanced brain CT



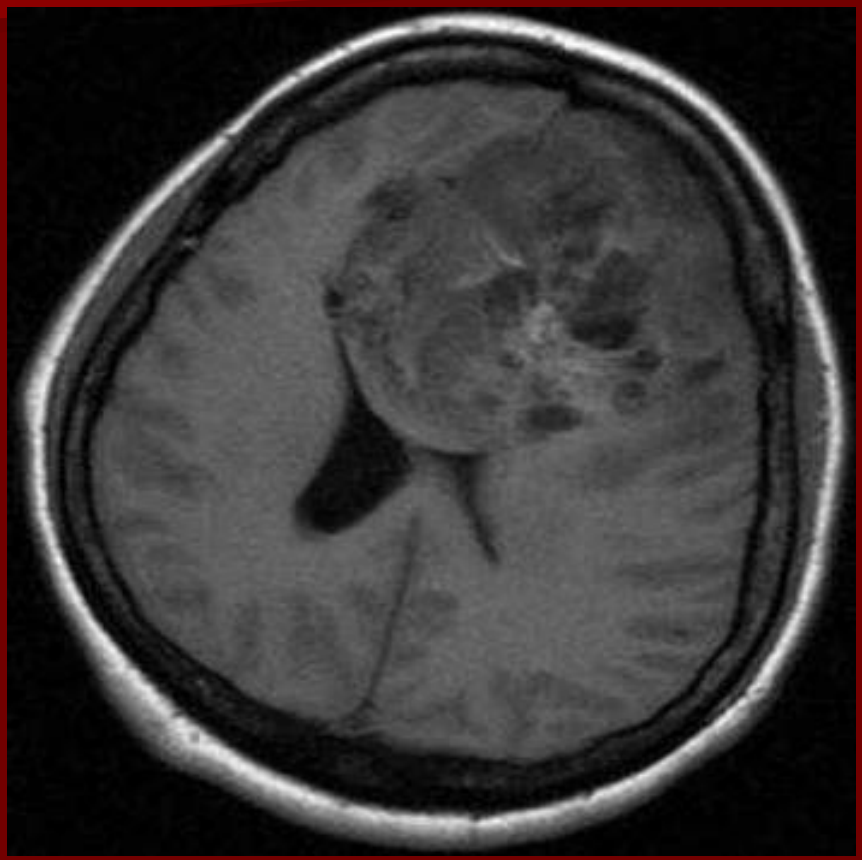
- Multilobulated, calcified, heterogeneous mass measuring 6.1x8.2cm with extensive perifocal edema occupying the bilateral frontal lobes and cross the corpus callosum
- Midline shift

Non-enhanced brain CT 2



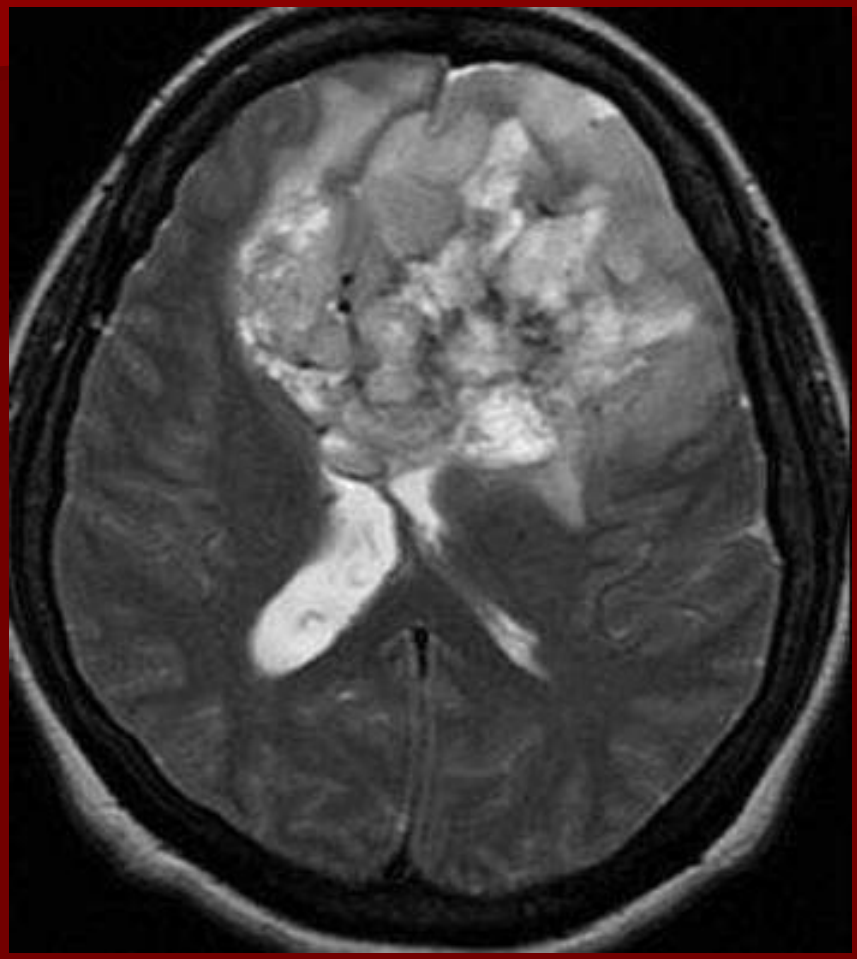
- Left lateral ventricle compression and Foramen of Monro obstruction, result in right lateral ventricle distention
- Diffuse cerebral edema causing disappearance of sulci and fissures

MRI T1W1



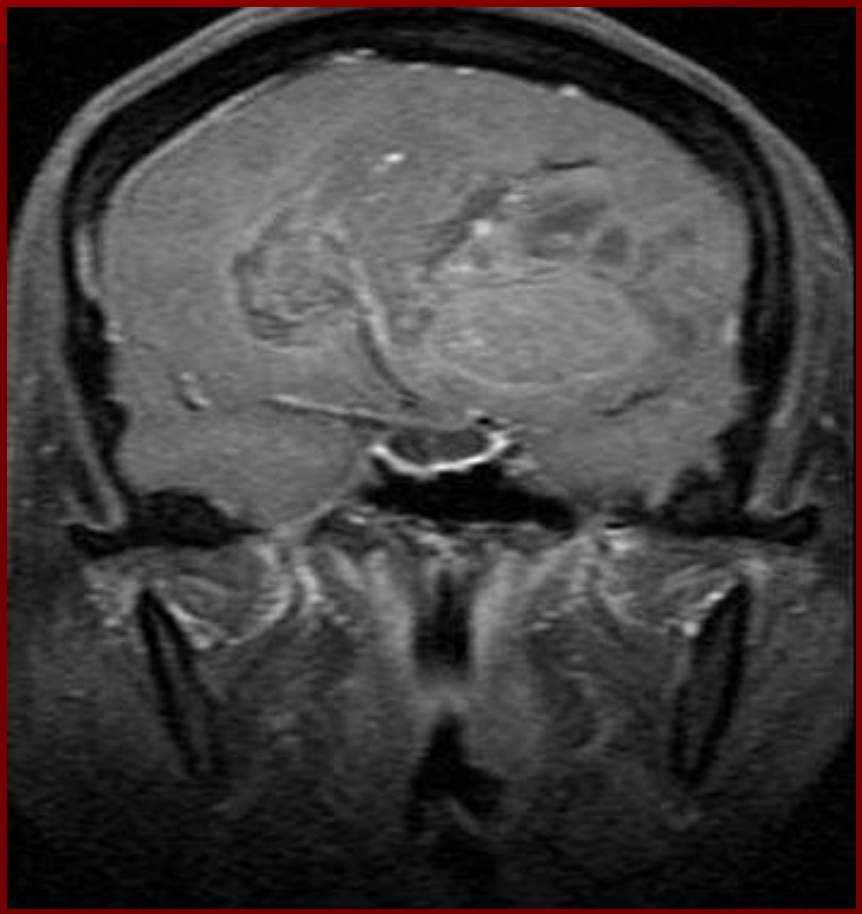
- Large multilobulated irregular mass with perifocal edema in the left frontal lobe and cross the corpus callosum

MRI T2W1



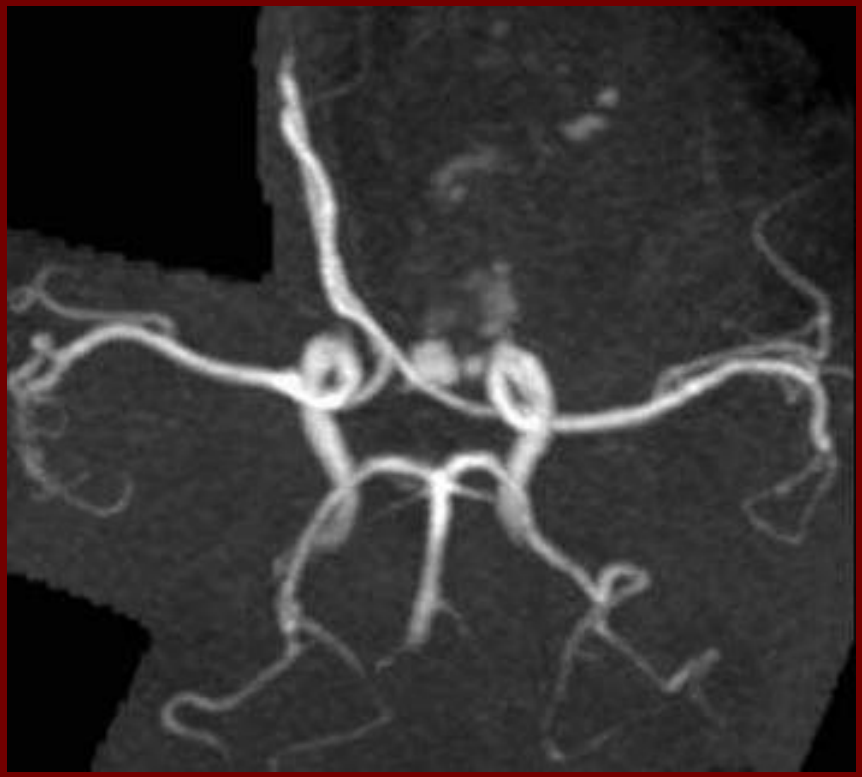
- Compression of the left lateral ventricle and distention of the right lateral ventricle

MRI T1W1 with contrast



- Heterogeneous enhancement of the mass

MRA



- Anterior cerebral arteries displaced to the right and left middle cerebral arteries displaced laterally

Summary of the image findings

- Large multilobulated, calcified, heterogeneous mass with perifocal edema at the frontal lobes
- Contrast enhancement (+)
- Left lateral ventricle compressed and right lateral ventricle distention
- Midline shift (+)

Differential diagnosis

- Oligodendroglioma
- Glioblastoma multiforme
- Meningioma

Image findings of oligodendroglioma

- Partially calcified cortically-based mass
- May expand to invade the calvarium
- 20% may see hemorrhage or cysts
- Heterogeneous appearance on MRI
- May appear well circumscribed with minimal associated edema
- 50% may show contrast enhancement

Image findings of glioblastoma multiforme

- Poorly-marginated, diffusely-infiltrating hemispheric mass
- Thick, irregular-enhancing ring of neoplastic tissue surrounding a necrotic core
- Calcification rare
- Often mixed signal on MRI

Image findings of meningioma

- Extra-axial mass
- Broad base towards dural surface
- Dural tail sign (35-80%): a streak of dural enhancement flanking the main tumor mass
- 25% atypical (extensive necrosis, cysts, hemorrhage)
- Edema in 50-65%; 20-25% calcified
- >95% strong enhancement; often heterogeneous

Impression

- Oligodendroglioma
- Glioblastoma multiforme

Operation method

- Bifrontal craniotomy and subtotal removal of tumor under microscope

Pathological finding

- Biopsy: specimen shows a picture of oligodendroglioma composed of moderate cellularity of tumor cell with round homogeneous nuclei and clear cytoplasm. No mitotic activity, microvascular proliferation or necrosis is found
- Operation: Above plus focal mucoid/cystic degeneration and marked calcification within the tumor or its peripheral and even in the vascular wall

Oligodendroglioma: etiology

- Exposure to ionizing radiation is the only well-documented environmental risk factor for the development of brain tumors
- Oligodendroglioma frequently have deletions of 1p and 19q

Clinical features

- Peak incidence: forth and fifth decades
- Slight male preponderance
- Patients have relative long-standing history of symptoms, the most common are seizure and headache
- Good outcome factors: younger age, frontal location, lack of enhancement, complete resection

Clinical features 2

- Poor prognostic factors: necrosis, mitotic activity, nuclear atypia, cellular pleomorphism, microvascular proliferation
- Local recurrence common; malignant progression may occur
- 5 year survival >50% and 10 year survival 25-34%

Treatment

- Optimal management have not been defined
- Surgical resection with adjuvant chemotherapy then stereotactic radiosurgery or external beam radiation