

Brain Edema

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General consideration

- Def.: increased intracranial fluid content
- Associate with many brain pathology
- Contributes to the resultant morbidity and mortality and plays a major role in prognosis of many brain conditions
- Can be measured now by MRI, diffusion-weighted imaging.

Classification of brain edema

Vasogenic brain edema ●

Cytotoxic brain edema ●

Interstitial brain edema ●

I- Vasogenic brain edema

“open barrier edema”

- Associated with increased capillary permeability and open BBB.
- Fluids accumulate in the interstitial spaces
- Most commonly seen edema in practice
- Commonly seen with tumors, hge., infarction, abscess, contusions, meningitis
- Usually localized around the 1ry lesion
- Produce focal \uparrow & \downarrow .
- Respond good to dexamethasone.

II- Cytotoxic brain edema

“closed barrier edema”

- Involve swelling of all the cellular elements of the brain with reduction of extracellular fluid and intact BBB.
- Clinically encountered in conditions with diffuse brain pathology e.g; encephalities, DKA, haemodialysis, hyponatremia.
- \$ & \$ are more generalised: confusion, coma, drowsiness
- Respond more to osmotherapy; manitol, Lasix.

III- Interstitial brain edema

“hydrocephalic edema”

- Seen in hydrocephalus
- Fluids accumulate in the periventricular area
- Seen in CT-Scan as periventricular hypodensity
- Respond well to osmotherapy and diuretics
- *Clinical features of brain edema(↑ICT)*

Brain tumours

Classification Of Brain Tumours

- **1. Tumours arising from the meninges:**
Meningiomas
- **2. Tumours arising from the brain tissue:**
Gliomas
- **3. Tumours of the blood vessels:** Haemangioma.
- **4. Tumours of the cranial nerves:** Acoustic neuroma of the 8th nerve.
- **5. Pituitary tumours:**
- **6. Secondary:**
- **7- Congenital tumours:** Teratoma, cholesteatoma.

Clinical picture

Brain tumours manifest clinically by:

1. **General symptoms and signs** of increased intracranial tension (\uparrow ICT)
2. **False localizing symptoms & signs** regardless to the site of the tumour ,mostly due to increased I.C.T.
3. **Specific symptoms and signs** according to the site of the tumour (true localizing signs).

increased I.C.T.

The increased I.C.T. presented with classical triad of:

I. Headache

II. Vomiting

III. Papilloedema

THANK YOU