Cranial and Intracranial complications of otitis media

Presented by

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This is what you should read to become a doctor 🙈

بسم الله الرحمن الرحيم

قسم الطبيب

أقسم بالله العظيم

- أن أراقب الله في مهنتي ...
- وأن أصون حياة الإنسان في كافة أدوارها. في كل الظروف والأحوال مبادلاً وسعي في أستنقاذها من الهلاك والمرض والألم والقلق.
- وأن أحفظ للناس كرامتهم، وأستر عورتهم، وأكتم سرهم
- وأن أكون على الدوام من وسائل رحمة الله، باذلاً رعايتي الطبية للقريب والبعيد، للصالح والخاطئ، والصديق والعدو
- وأن أثابر على طلب العلم، أسخره لنفع الإنسان .. لا لإذاه.
- وأن أوقر من علمني، وأعلم من يصغرني، وأكون أخا لكل زميل في المهنة الطبية متعاونين على البر والتقوى
- وأن تكون حياتي مصداق إيماني في سري وعلانيتي، نقية مما يشينها تجاه الله ورسوله والمؤمنين.

والله على ما أقول شهيد

Modes of spread

1. Direct spread: osteitis due to erosion by cholesteatoma.

2. Venous spread……retrograde thrombophlebitis.

3. Labyrinthine route….. Through fistula or through its windows.

4.Other routes……. Fracture lines, un-united cranial sutures.

Mastoiditis and Mastoid Abscess

- C/P: Pain and tenderness over mastoid.

Ant.inferior displacement of pinna.

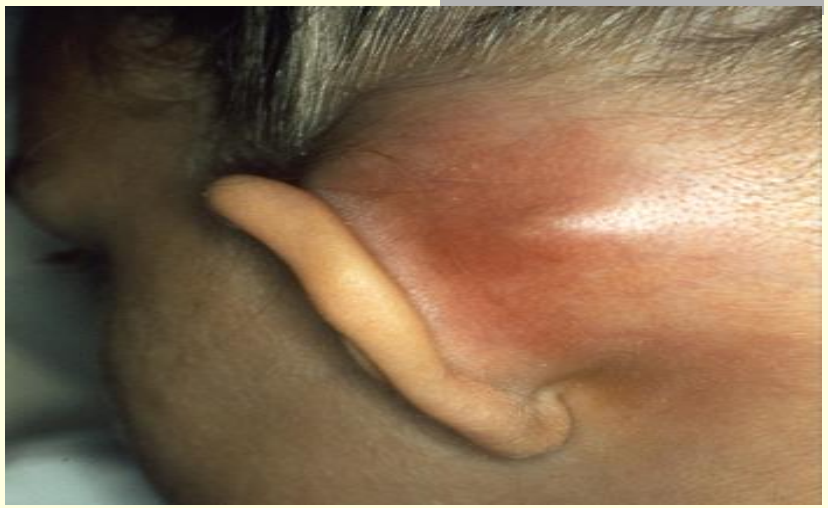
If abscess is formed→ fluctuation over pos-tauricular area.

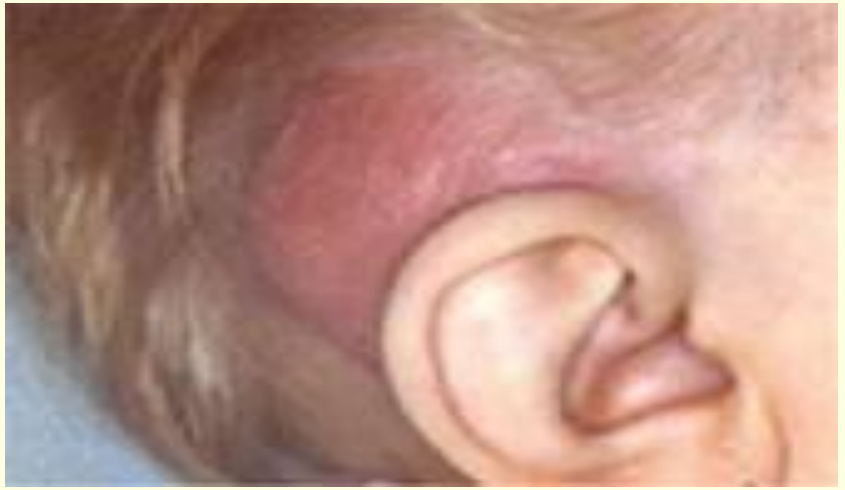
Different forms of abscess.

Treatment: - I.V antibiotics+ myringotomy.

- Not successful→ cortical mastoidectomy± myringotomy.

- Mastoid abscess→ surgery+ high doses of I.V antibiotics.





Facial nerve paralysis in otitis media

- In AOM and Mastoiditis:

occurs if nerve sheath is exposed by cong.dehiscence or adjacent mastoid air cells become inflammed.

ttt: antibiotics+myringotomy.

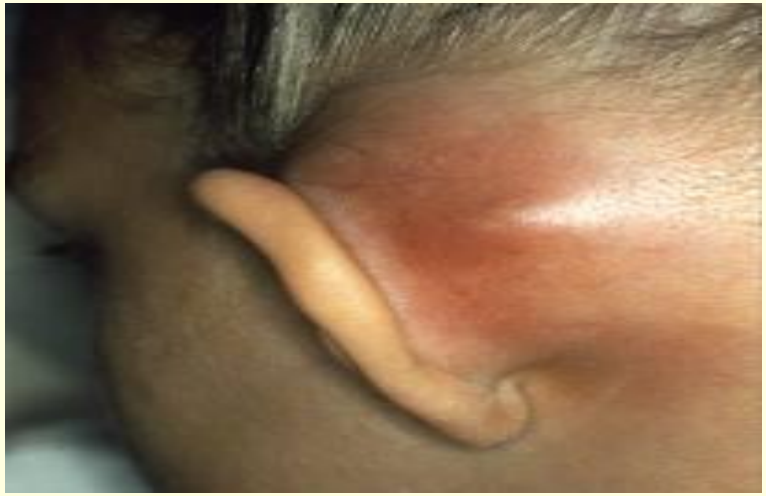
If not improving →cortical mastoid.

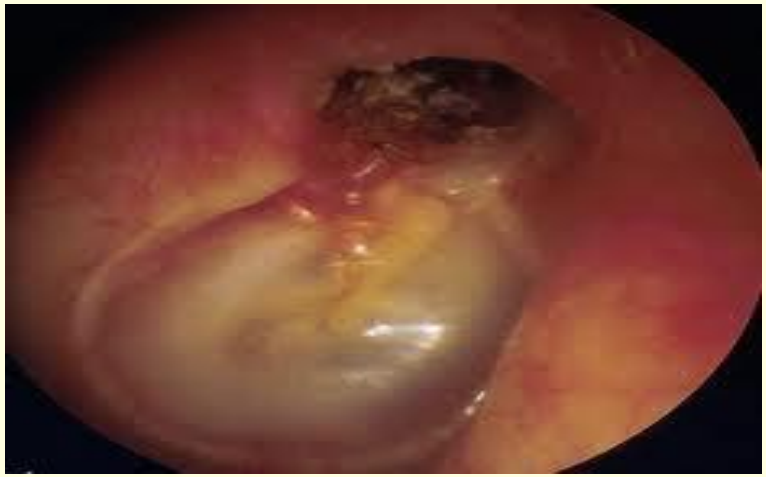
- In C.S.O.M:

If nerve is compressed or destroyed by keratoma.

In neuropraxia → n. decompression.

Complete denervation →full exploration of nerve, n.excision and grafting if n.continuity is lost.



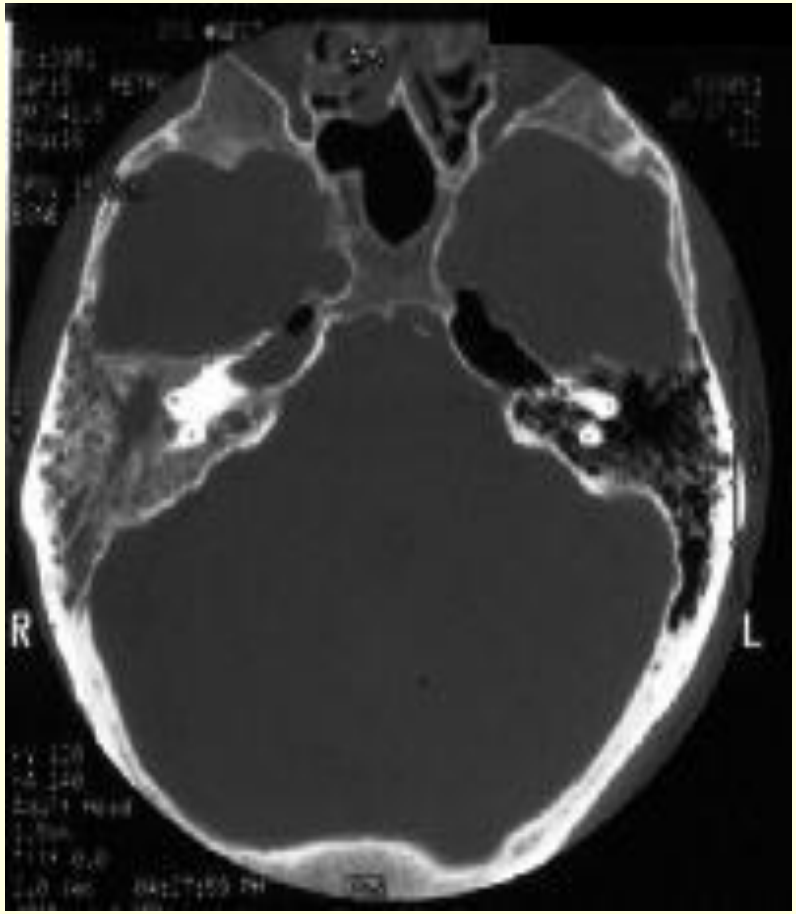


Petrositis

- Infection of pneumatized petrous apex.
- C/P: always associated with established mastoiditis.
- Retro-orbital pain due to (v) nerve irritation.
- Persistent otorrhea.
- Lateral rectus ms.paralysis

(Gradenigo syndrome).

Treatment: mastoidectomy + drainage of petrous apex cells by following fistulous track.



Meningitis

- Acute inflammation of leptomeninges

Clinical Picture:

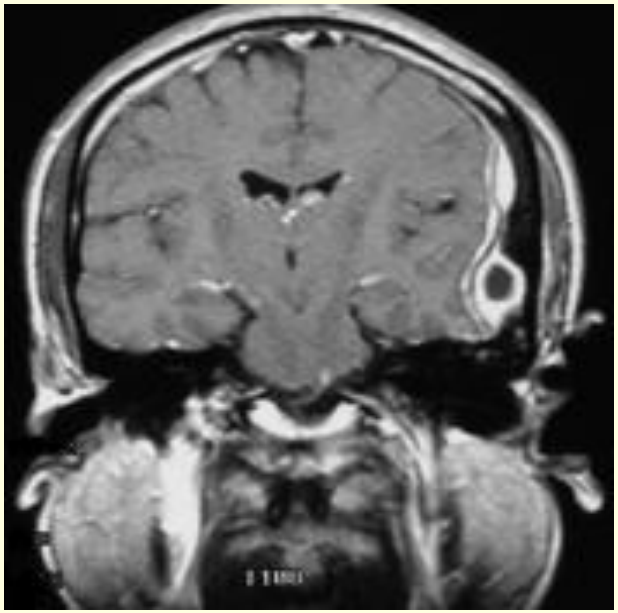
- Fever, rigors, headache.
- Neck stiffness.
- Kernig`s sign.
- Altered state of consciousness.
- Fits, mental irritability.
- Photophobia.
- Cranial n.palsies.

Treatment: - antibiotics that cross BBB.

- Conservative ttt.
- Surgery of 1ry focus after control of case.

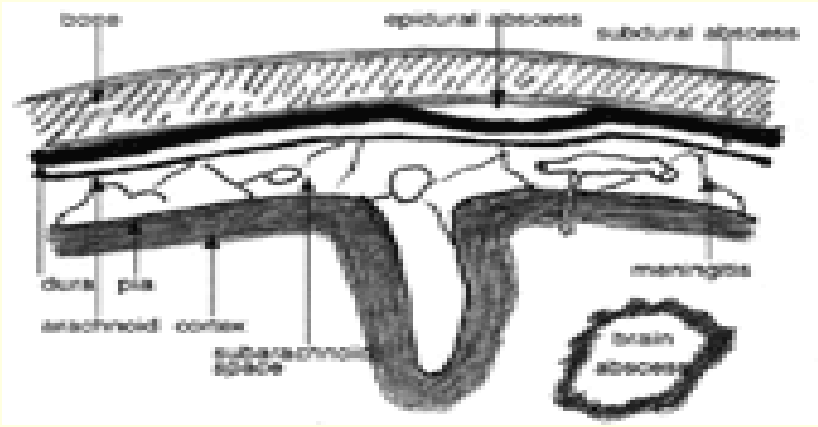
Extra-dural Abscess

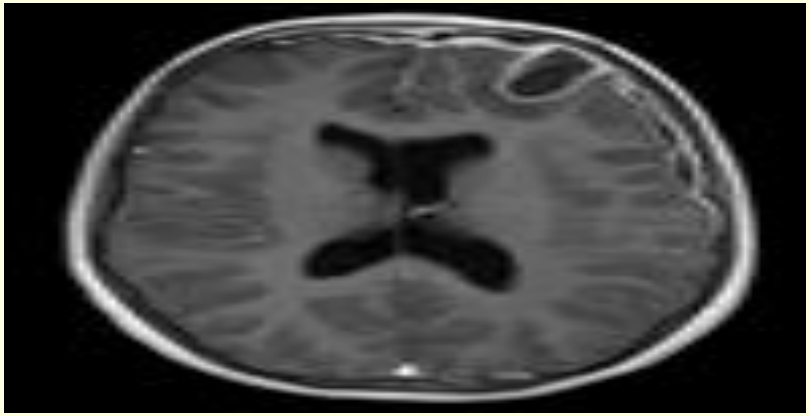
- Collection of pus is encapsulated.
- **C/P:** indeterminate, discovered accidentally at operation.
- CT scan will differntiate intra-cerebral from extradural collection.
- **Treatment:** drainage at time of surgery of primary focus.



Subdural Abscess

- Not much different from brain abscess.
- Collection of pus travels widely over brain surface.
- Intractable headache, fever, malaise.
- CT scan is essential in diagnosis.
- **Treatment:** evacuation of pus through burr hole , craniotomy is necessary.





Brain Abscess

- Infections from ear and sinuses constitute ½ of cases.

C/P: 1- General : fever, rigors, malaise, anorexia.

2- ↑ I.C.P: constant headache, progressive, vomiting, papilloedema is late.

3. Fits: focal or generalized.

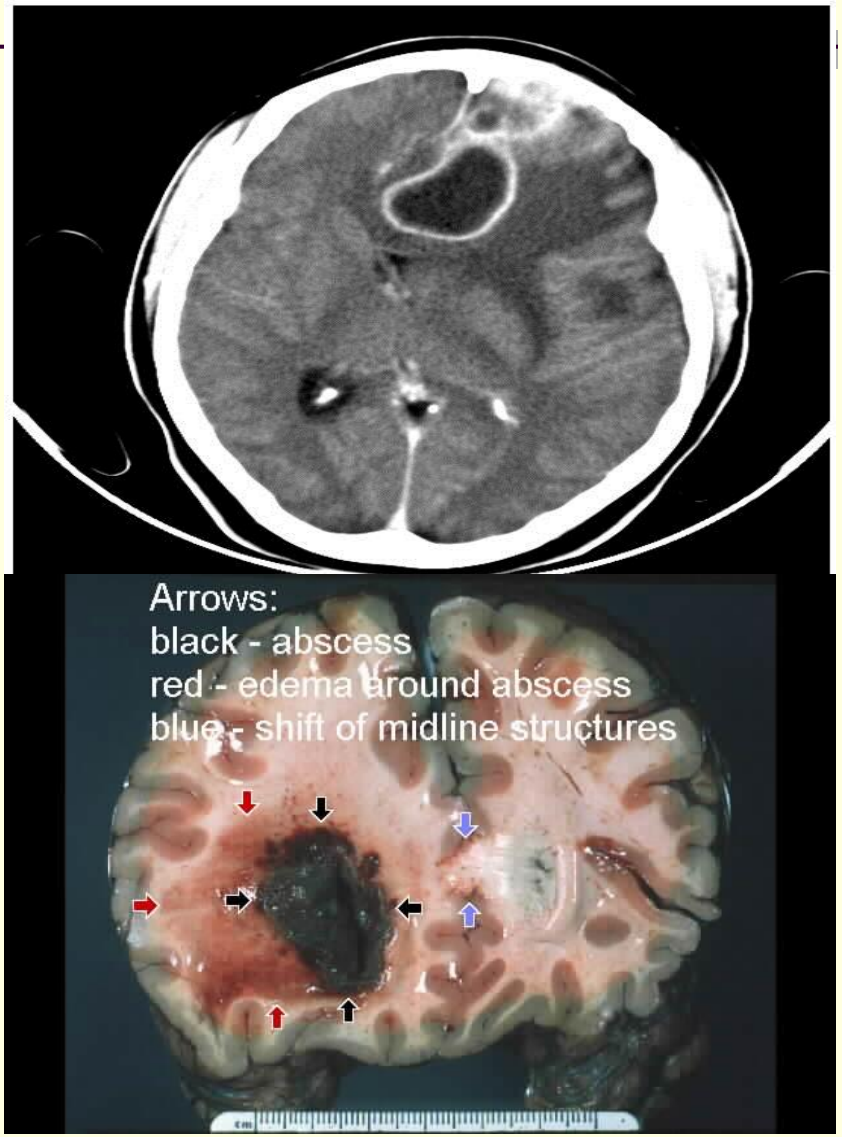
Post.part of frontal lobe… twitches of cont. arm

Parietal lobe…. Cont. parasthesia.

Auditory,visual hallucinations may occur.

4. Focal symptoms and signs:

- Frontal lobe…. Personality changes, signs of UMNL of opposite side.
- Temporal lobe cont.upp.quad.hemianopia, dysphasia when dominant hemisphere is involved



Brain Abscess

- **Cerebellar abscess**…. Weakness of limb movement on same side, staggering toward side of lesion.

Coarse nystagmus toward side of lesion.

Irregularity of rapid repetitive movements.

If brain abscess is suspected, lumbar puncture is contraindicated.

Investigation: CT scan with IV contrast.

Treatment: - Combination of IV antibiotics.

- Burr hole aspiration.
- Abscess excision by craniotomy
- Treatment of primary source of infection.

Complications: - Failure of localization, spreads fatally.

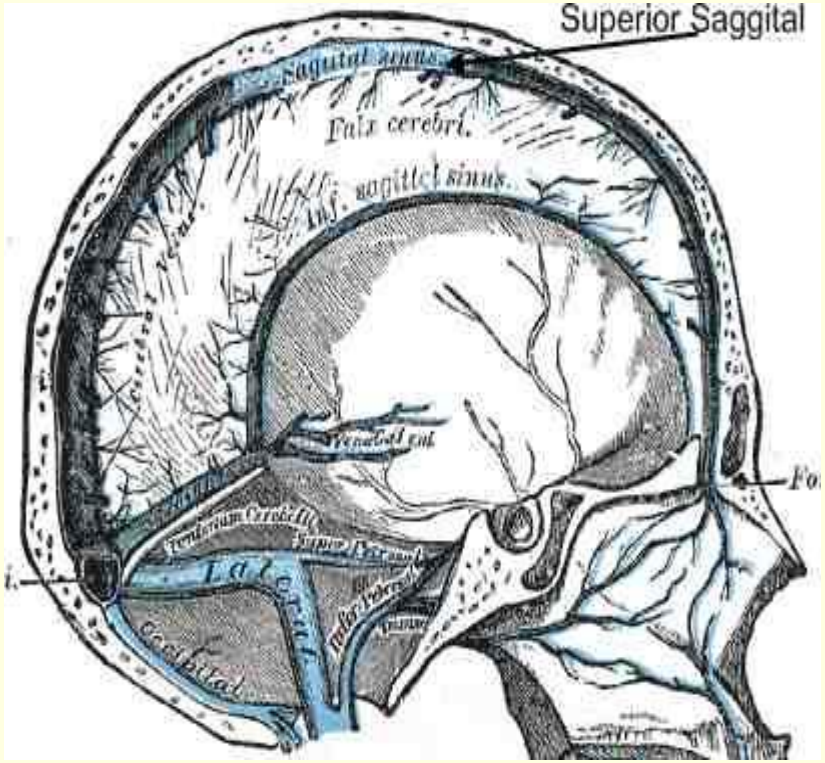
- rupture into ventricles.

Lateral Sinus Thrombosis

Pathology: 2ry to perisinus abscess or due to contact with septic bone

C/P: - Rigors: due to escape of organisms, followed by sweating, hectic temp.

- Papilloedema…. Indicates further I.C complications.
- +ve bl.culture if sample is taken during rigors.
- Polymorph leucocytosis, no change of CSF contents.



Lateral Sinus Thrombosis

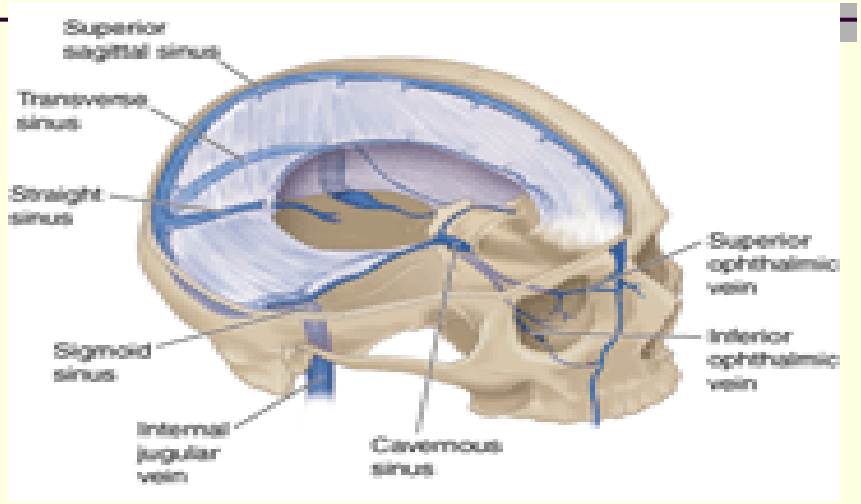
- **Complications:**

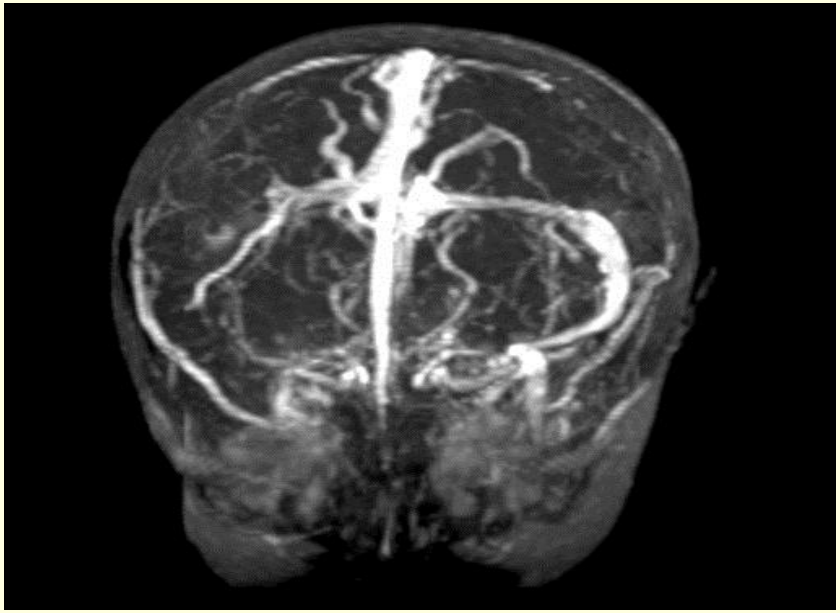
(1)Extension of aseptic clot to

- **sup.sagittal sinus…. Otitic hydrocephalus.**
- **Sup.petrosal sinus… venous infarction of lower motor cortex**
- **Jagular bulb and I.J.V…. Paralysis of ix, x, xi cranial ns.**
- **Inf.petrosal sinus….Gradenigo syndrome.**
- **Mastoid emissary v…tendrness, oedema of scalp.**
- **Cortical veins…. Focal symptoms.**

(2) Progressive infection of clots passing into

- **bl. stream…. Septicaemia, pyaemia.**
- **Meningitis, brain abscess.**





Lateral Sinus Thrombosis

- **Treatment:**

- Mastoidectomy and exposure of sinus until margin of healthy dural wall.
- I.V antibiotics.
- Evacuation of infected clot until flow of blood is obtained both proximally and distally.
- Ligation of I.J.V if bleeding can`t be obtained from jugular bulb, below entrance of common facial v.

Sagittal Sinus Thrombosis (Otitic hydrocephalus)

Aetiology: - Blockage of both sigmoid sinuses (one if other is small or absent) or sup.sagittal sinus…….↑ I.C.P

C/P: - symptoms of ↑ I.C.P.

- venous infarctions…. Focal symptoms , L.L is more likely to be involved.

- Generalized or local fits.

CT scan shows dilated ventricles, low density area of venous infarction.

Treatment: Antibiotics, elimination of 1ry infecting focus.

CSF drainage, permanent via ventriculo-peritoneal shunt.

Preservation of vision is the main objective of this otherwise relatively benign and reversible condition.

Treat epilepsy with phenytoin, carbamazepine.

Sagittal Sinus Thrombosis