The complications Of acute and chronic otitis media

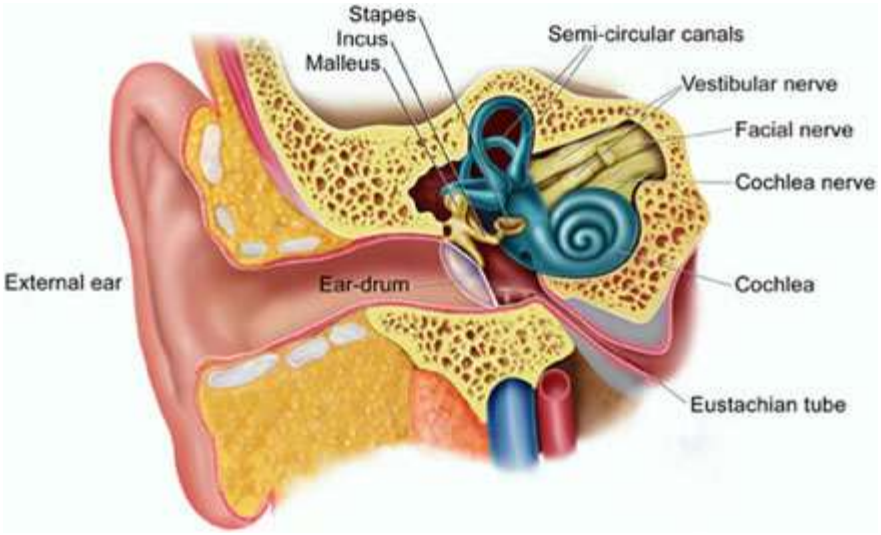
Sources: Dr.Alsanousi's lecture, Notes from the record.

✓Predisposing factors for complications to develop:

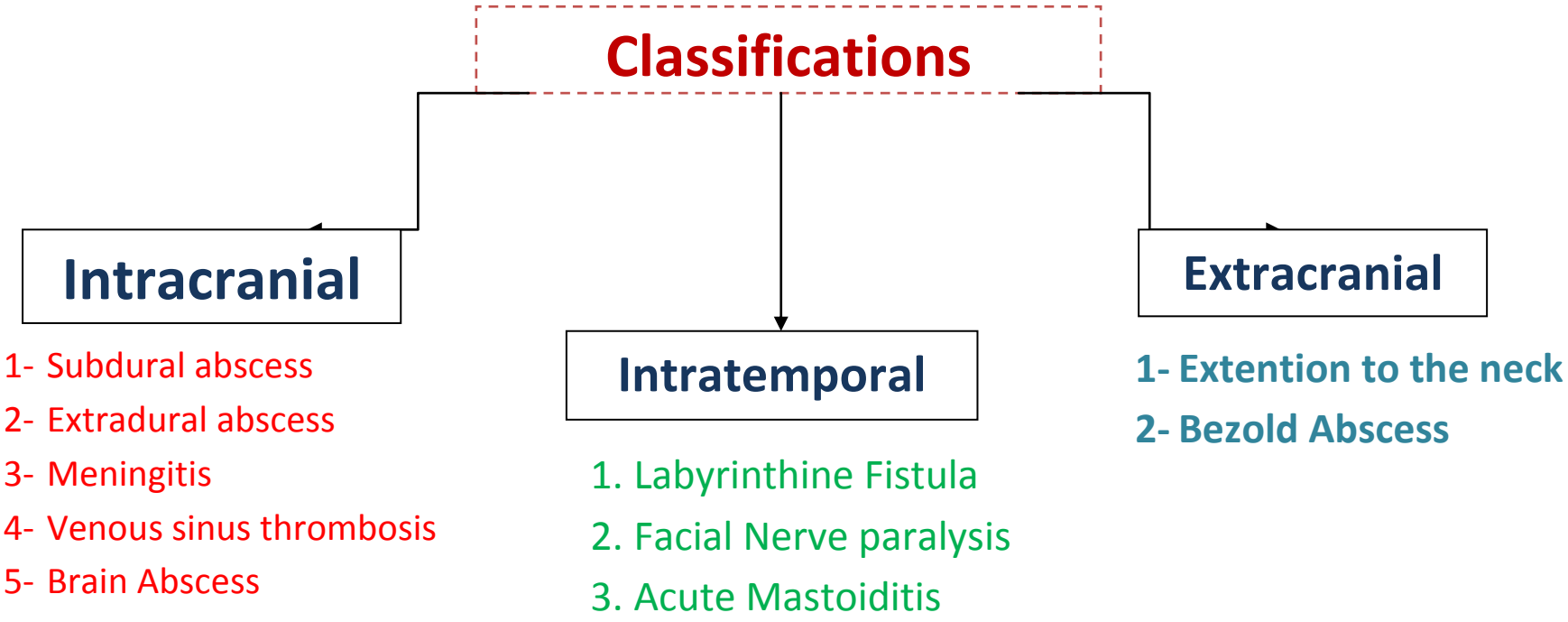
- Virulent organisms.
- Age (Age axtremes).
- Decrease immunity.
- Trauma.
- Cholesteatoma and bone erosion.
- Obstruction of austachian tube [by a polyp or tumor]

○ Pathways of infections:

- ✓ Bone extension (From Cholestatoma)
- ✓ Vascular extension (Retrograde thrombophlebitis).
- ✓ Extension from a pre-formed pathway :
  1. Congenital dehiscence [Absence of the bone covering the facial nerve, etc..]
  2. Dehiscence due to previous surgery.
  3. Fracture lines.
  4. Round or oval window to the labyrinth.



Classifications



Intracranial Complications

1- Extradural Abscess:

* [Collection of pus against the dura in the middle of posterior cranial fossa]

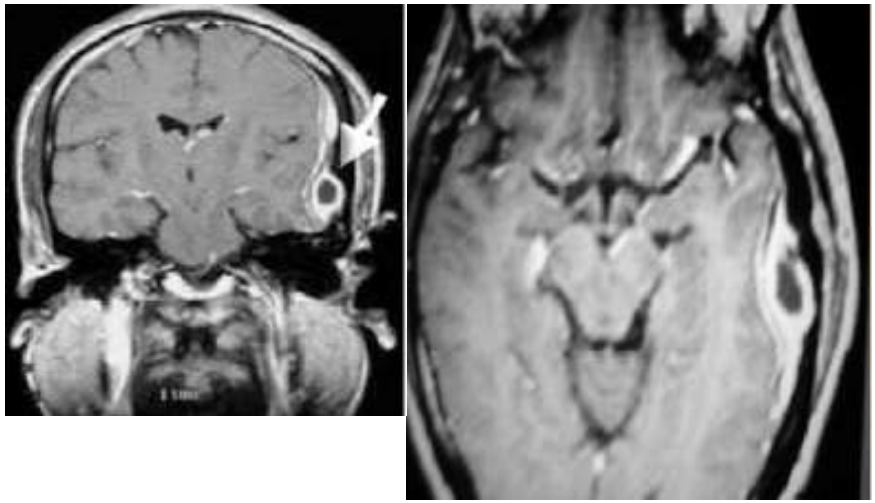
*The **commonest** intracranial complication of Otitis Media.

*Clinical Picture

- **Syomptomatic:**
  1. Persistent headache on the site of OM.
  2. Pulsating discharge.
  3. Fever
- **Asymptomatic** (discovered during surgery)

*Diagnosis:

- CT scans reveal the abscess as well as the middle ear pathology.



*Treatment:

1- Mastoidectomy.
2- Drainage of the abscess

2- Subdural Abscess:

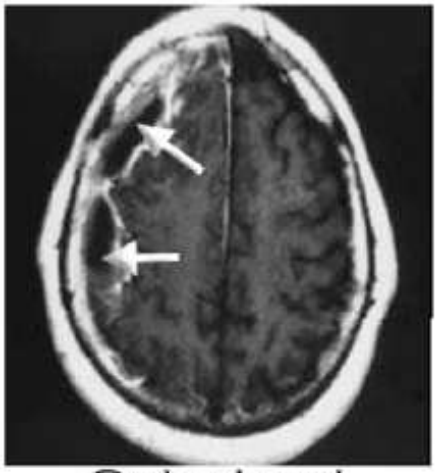
*[Collection of pus between the dura and the arachnoid, **It's a rare pathology**].

*Clinical picture:

1. **Headache** without signs of meningeal irritation → [you'll find it below]
2. **Convulsions**
3. **Focal neurological deficit :**
   i. Paralysis
   ii. loss of sensation
   iii. visual field defects

*Diagnosis:

- CT scans.
- MRI



Sub-dural Absecss

*Treatment:

3- Drainage.
4- Systemic AntiBiotics
5- Mastoidectomy.

Intracranial Complications

*Circumscribed meningitis:

NO bacteria in CSF

*Generalized meningitis:

Bacteria are present in CSF

3- Meningitis :

*[Inflammation of meninges (Pia and Arachnoid)].

*Occurs during acute exacerbation of **chronic unsafe** middle ear infection.

*Clinical picture:

1. High fever.
2. Restlessness.
3. Irritability.
4. Photophobia.
5. Delirium.
6. Signs of meningeal irritation.

*Diagnosis

- Lumbar puncture

Lumbar Puncture

*Treatment:

1. Treatment of the complication itself and control of ear
2. infection
   - Specific Antibiotics.
   - Antipyretics and supportive measures.
   - Mastoidectomy to control the ear Infection.

Intracranial Complications

*Signs of meningeal irritation:

- Neck rigidity.

- Positive Kernig's sign:
  - Difficulty to straighten the knee while the hip is flexed.

- Positive Brudzinski's sign:
  - Passive flexion of one leg results in a similar movement on the opposite side or
  - If the neck is passively flexed, flexion occurs in the hips and knees.

Intracranial complications

4- Venous Sinus Thrombosis:

* [Thrombophlebitis of the venous sinus] .

* It usually develops secondary to direct extension

*Clinical picture:

1.Signs of blood invasion:
- Spiking fever with rigors and chills .
- Persistent fever (Septicemia).

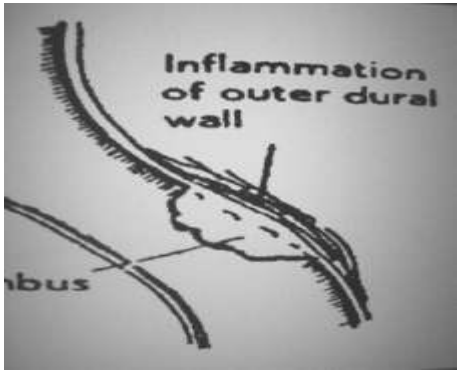
2. Positive Greissinger's sign :
[Edema and tenderness ove the area of the mastoid emissary Vein].

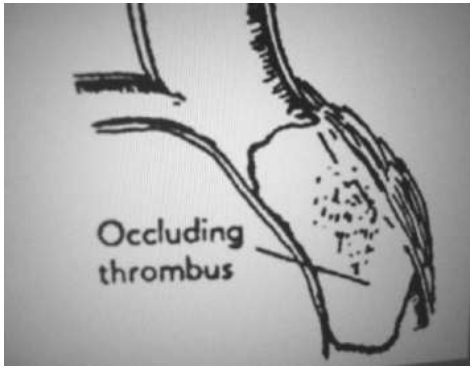
3. Signs of increased intracranial pressure:
- Headache. -Papillodema
- Vomiting

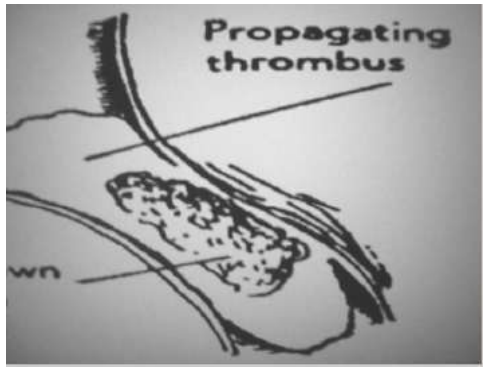
*Diagnosis :

1. CT scan with contrast
2. MRI, MRA, MRV
3. Angiography, venography
4. Blood cultures is positive during the febrile phase.

Intracranial complications







Treatment:

- **Medical:**
  - 1- Antibiotics
  - 2- Supporative treatment
  - 3- Anticoagulent
- **Surgical:**
  - Mastoidectomy + Exposure of the effected sinus + Drainage of the intra sinus abscess.

Intracranial complications

5- Brain Abscess: 50% is Otogenic brain abscess

* [Localized suppuration in the brain substance].

*It is most **lethal** complication of supportive otitis media

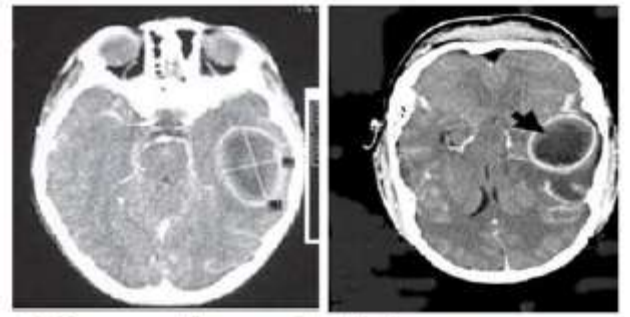
*Site:

- Temporal lobe. (More common)
- In the cerebellum. (Less frequently but more dangerous)

*Diagnosis:

1- CT scans.

2- MRI



Cerebral Abscess

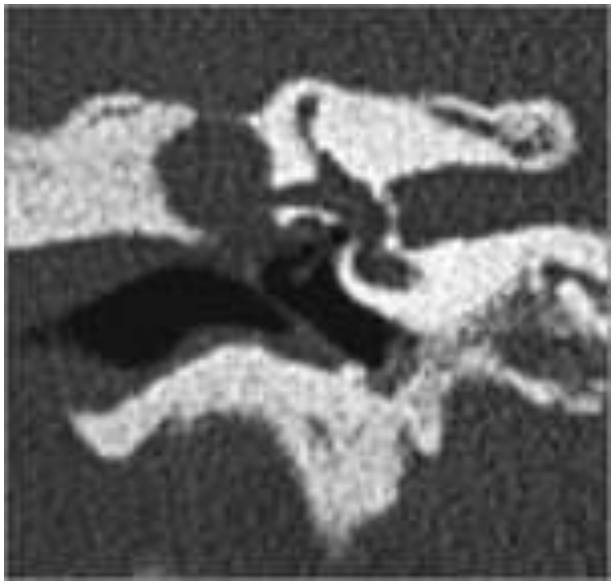
Intracranial complications

*Treatment:

1. **Medical:**
   - Systemic antibiotics
   - Measure to decrease intracranial pressure.

2. **Surgical:**
   - Neurosurgical drainage of the abscess.
   - Appropriate mastoidectomy operation after subsidence of the acute stage.

Intratemporal complications



1- Labyrinthine fistula:

* [Communication between middle and inner ear.

* It is caused by erosion of boney labyrinth due cholesteatoma .

* **Clinical picture :**

1. Attack of vertigo mostly during straining ,sneezing and liming heavy object
2. Positive fistula test

* **Diagnosis:**

1. High index of suspicion
2. longstanding disease
3. fistula test
3. Ct scan of temporal bone

* **Treatment:** Mastoidectomy

Intratemporal complications

2- Facial nerve paralysis:

* [Congenital or acquired dehiscence of nerve canal]

* It is possibly a result of the inflammatory response within the fallopian canal to the infection acute or chronic otitis media .

* **Tympanic segment** is the most common Site to be involved.

* **Diagnosis:**

1- Clinical.

2- CT Scan.

* **Treatment:**

1- Acute otitis media and acute mastoiditis → (cortical mastoidectomy + ventilation tube).
2- Chronic otitis media with cholestetoma → (mastoidecomy + facial nerve decompresion).

Intratemporal complications

3- MASTOIDITIS

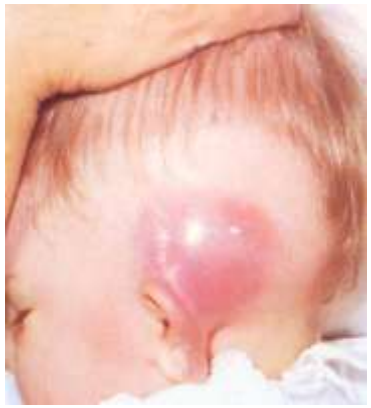
* It is the inflammation of mucosal lining of antrum and mastoid air cells system.

* **Acute Mastoiditis Pathology**

1. Production of pus under tension.
2. Hyperaemic decalcification.
3. Osteoclastic resorption of bony walls.

* **Symptoms:**

- Earache.
- Fever.
- Ear discharge.



* **Signs:**

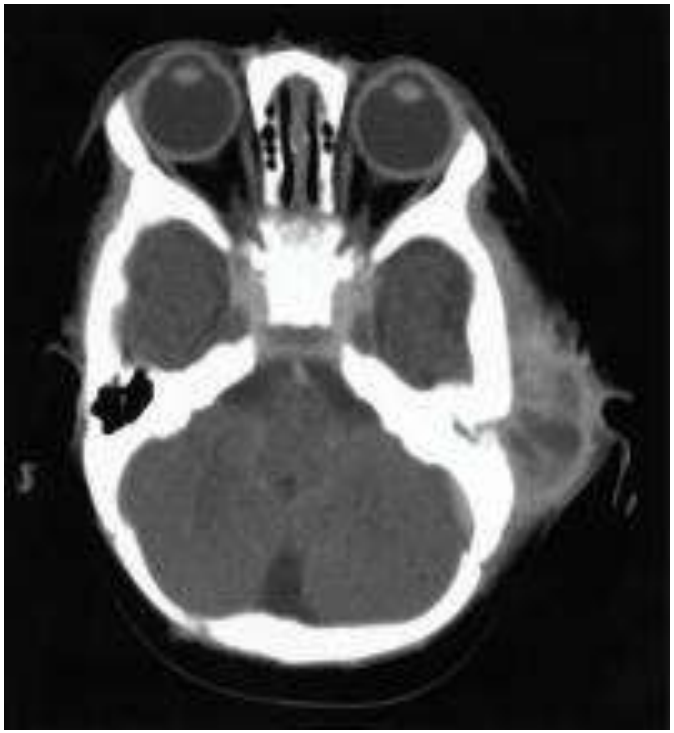
- Mastoid tenderness
- Sagging of posterosuperior meatal wall
- Tympanic membrane perforation
- Swelling over mastoid
- Hearing loss

Intratemporal complications

* **Investigations :**

1- CT scan temporal bones

2- Ear swab for culture and sensitivity



* **Treatment:**

Medical treatment:

1- Hospitalize.

2- Antibiotics

3- Analgesics

Surgical treatment:

1- Myringotomy

2- Cortical mastoidectomy.

Extracranial complications

1- Extension of infection to the neck

2- Bezold abscess:

[Extension of infection from mastoid to SCM]

Rearranged by:

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