بسم الله الرحمن الرحيم

Slowly progres
progressi

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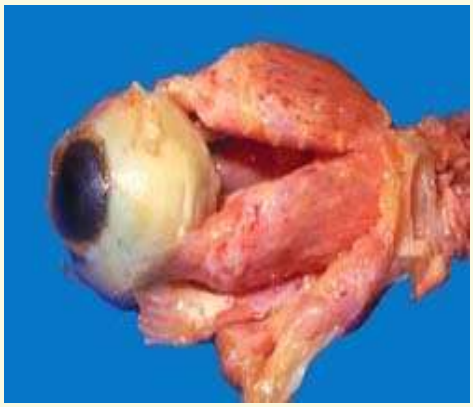
What is proptosis

Forward protrusion of one or both eyeballs

Unilateral asymmetric protrusion of one eye by at least

Exophthalmos

Usually bilateral and symmetrical
Pathological changes displace eye forward and can interfere with muscle actions and venous drainage



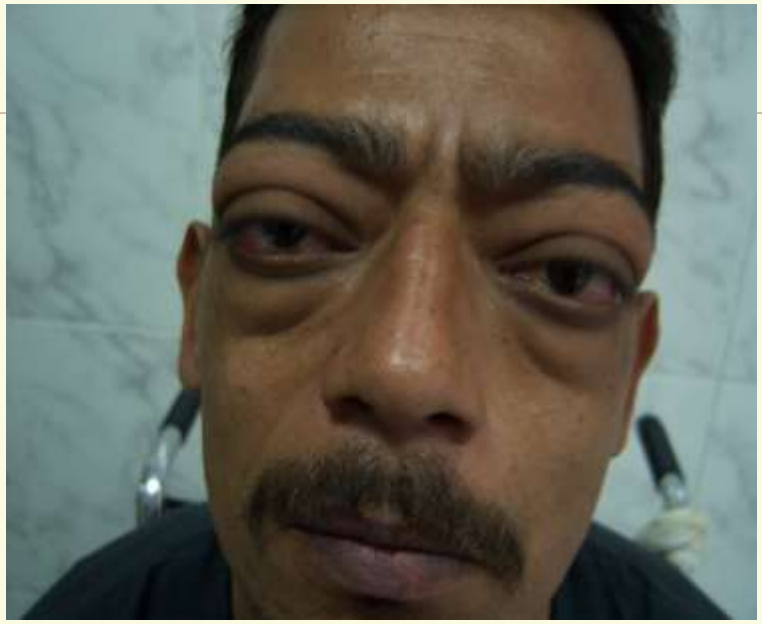
Clssifications of proptosis

1- unilateral
2- bilateral
3-intermittent
4-acute
5- pulsating

- Unilateral proptosis
  - congenital include dermoid cyst ,congenital cystic eye ball and teratoma
  - traumatic
  - inflammatory Thyroid eye disease (Graves' ophthalmopathy and inflammatory pseudotumour

  - Vascular lesions
  - cysts of the orbit
  - Mucoceles of the paranasal sinuses

- Bilateral proptosis
  - endocrinal exophthalmos
  - developmental anomalies of the skull
  - Orbital inflammatory pseudotumor
  - Orbital tumors include lymphoma, leukemia ,ewings sarcoma and neuroblastoma
  - inflammatory histiocytosis ,fungal granuloma



Rapidly progressive proptosis

Infantile lymphangioma ,hemangioma

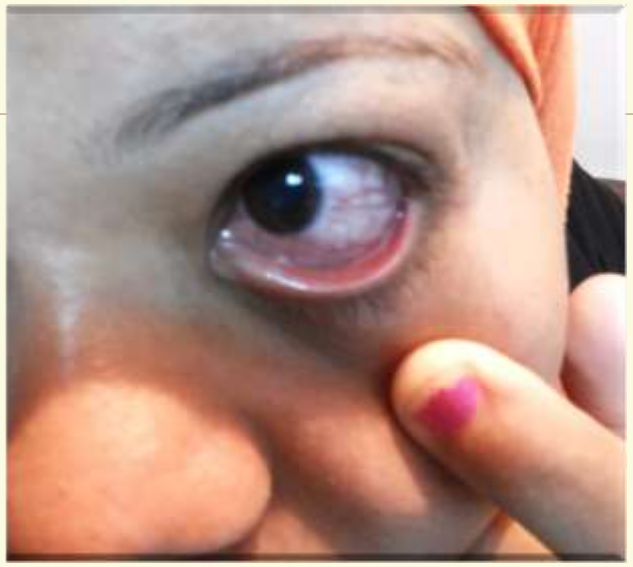
infections Orbital infectious cellulitis

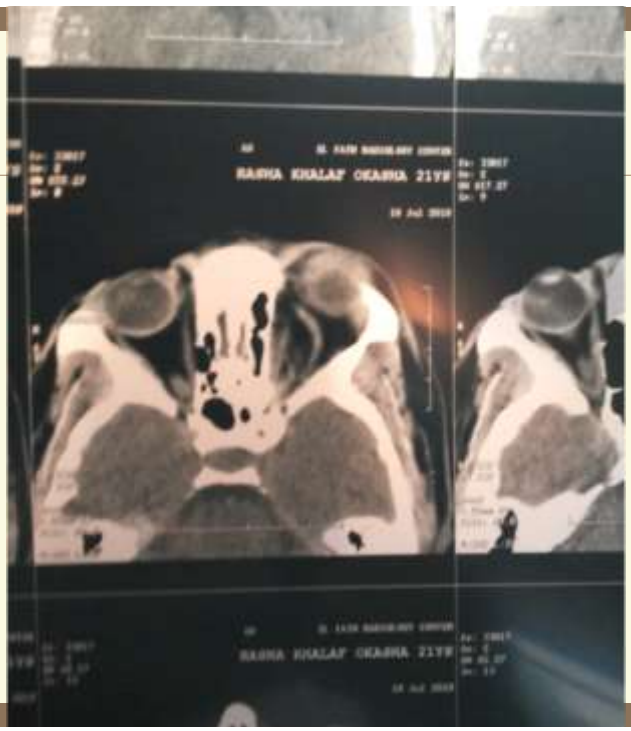
Trauma (retrobulbar hemorrha

inflammation Orbital inflan
pseudotumour or rhabdomyos

Metastatic lesions& neuroblastoma

- Intermittent proptosis
- Orbital varix
- Periodic orbital oedema
- Recurrent orbital hemorrhage
- Highly vascular tumors

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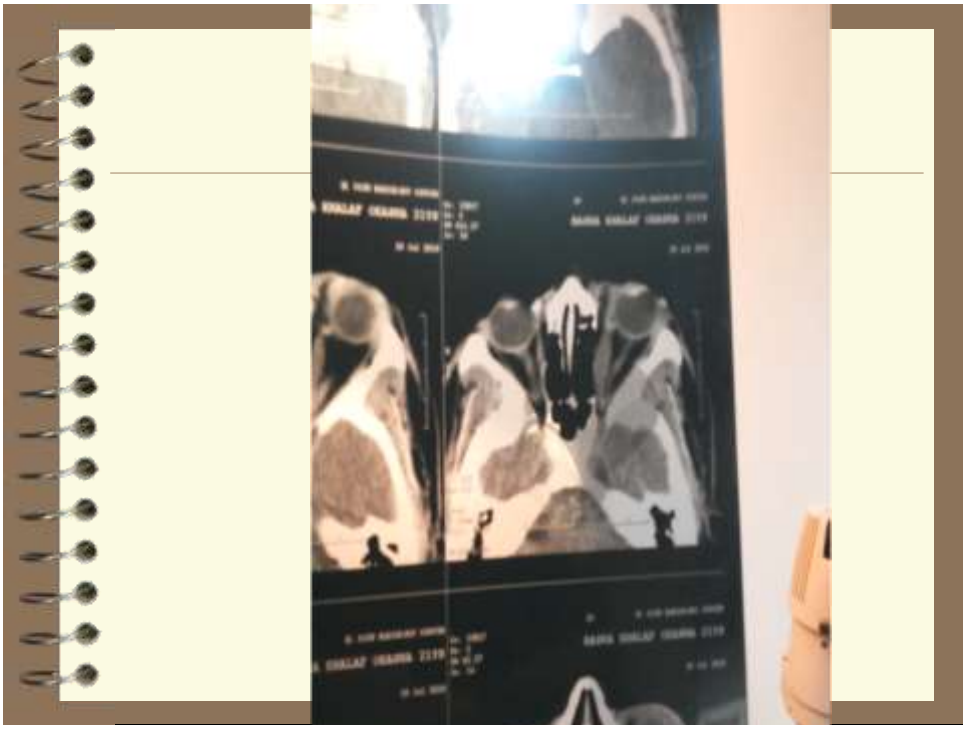
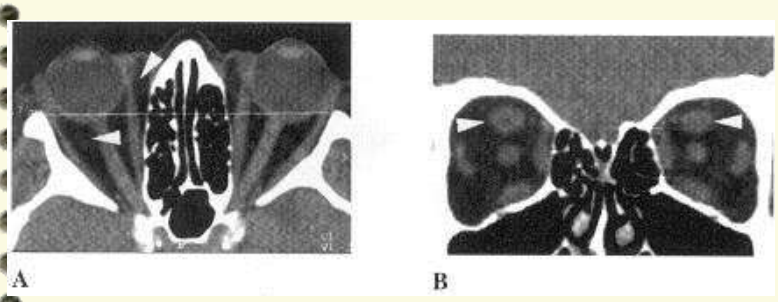


DD of Thyroid Ophthalmopathy

- Orbital tumors (primary or metastatic)
- Orbital pseudotumor
- Wegener's granulomatosis
- Orbital infection
- Carotid-cavernous sinus fistula

Radiologic Evaluation

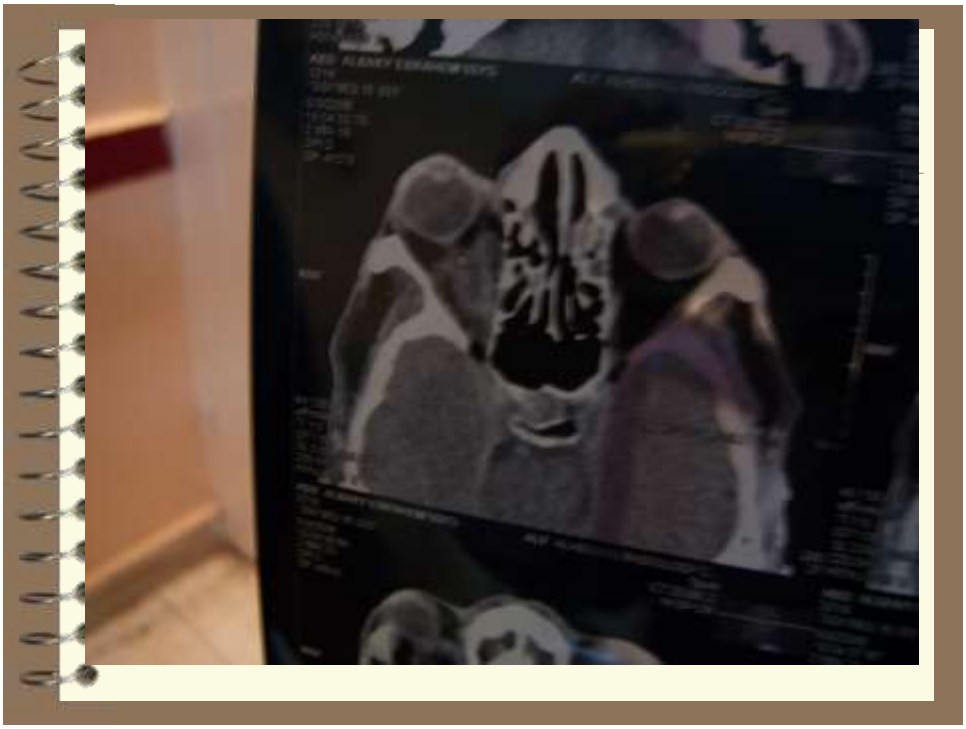
Non-contrast enhanced coronal orbital CT scan most helpful to assess size of extraocular mm.



A Symmetric bilateral exophthalmos and hypertrophy of fat. Axial muscles are mildly involved. .A

B-Enlargement of levator palpebrae superioris and superior rectus complex. .B

Medial and lateral rectus muscle enlargement with orbital apex crowding, leading to optic neuropathy



9 p signs

Pain

Severe in the followings conditions

(infection orbital cellulitis,

vascular lesion lymphangioma,

metastatic lesions

High flow CC F

pain associated with orbital trauma

Mycocysticercosis

Pain associated with acute presentation of TAO

Moderate pain

- Inflammatory orbital diseases
- Ruptured dermoid
- Mycocysticercosis
- Trauma
  - dull boring pain
  - bone erosion due to neoplastic tumors

9 p signs

- Progression onset (acute ,subacute or chronic) intermittent proptosis
- Proptosis (direction axial , down and out ,down and in ,upward displacement
- Pulsation
- Pupil
- PBCT
- Perception of color vision
- Periorbital changes

Diagnostic signs in proptosis

- Sudden rise with dramatic proptosis in a child with recent upper respiratory infection -------hemorrhage into lymphagioma
- Gaze evoked amaurosis – orbital apex tumours
- Pain with a short history of mass in the lacrimal gland --- adenoid cystic carcinoma
- Long history of painless mass in the lacrimal gland ------ pleomorphic adenoma
- History of tinnitus ---- AV shunt
- Proptosis increasing on straining ---- orbital varix
- Spontaneous unilateral periorbital bruising amylidosis
- Spontaneous lower &upper bruising ----neuroblastoma

The pattern of orbital involvement can be divided into four categories

1- inflammatory effect

2- mass effect … displacement with or without signs of sensory or neuromuscular junction

Displacement points to the location of the disease and may help to characterize its nature

3- vascular changes like features suggesting vascular disease include venous dilation , pulsation ,expansion with straining and hemorrhage

4-Infiltrative infiltrative disease are associated with evidence of destruction , entrapment or both

List common problems associated with proptosis

1-Exposure keratopathy

poor blink mechanism –

corneal abrasions and ulcers –

2-**Diplopia** .

displacement of the globes –

extraocular muscle function –

3-Optic nerve compression .

decreased visual acuity –

RAPD –

color vision deficit –

visual field defect –

A 35-year-old female
Gradual painless L. axial proptosis

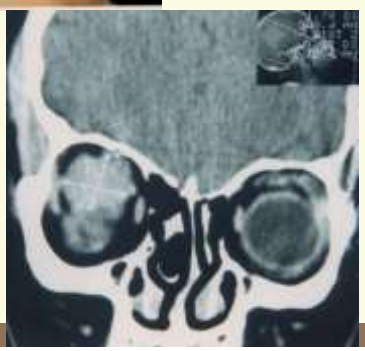
A 3-year-old boy
R. Acute proptosis

Child with rapidly progressive unilateral proptosis, displacement of the globe inferiorly, and edema of upper eyelid?

Rhabdomyosarcoma
most common primary orbital malignancy of childhood
malignant growth of striated muscle tissue
rapidly progressive mass in the superior orbit with proptosis, globe displacement, and eyelid swelling
average age of presentation is **7** years
Prompt diagnosis with orbitotomy and biopsy is crucial
overall mortality is 60% once the disease has extended to orbital bones
Current Rx with radiation + chemo have lowered mortality rates to 5 to 10%

Most common benign orbital tumor in adults that causes unilateral proptosis

Cavernous hemangioma
slow-growing vascular tumor
usually diagnosed in young adulthood to middle age
CT scan
intraconal well-defined orbital mass
Visual acuity is often not affected.
Treatment observation or surgical excision



Tumors that are encapsulated or appear well circumscribed on neuroimaging

Cavernous hemangioma
Schwannoma
Fibrohistiocytoma
Neurofibroma
Hemangiopericytoma

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Case NO 1

- An 45 year-old woman presented with gradually progressive proptosis of the left eye with swelling below the left lower eye lid The swelling did not change in size with the Valsalva maneuver, coughing, straining, or change in head position.

CON

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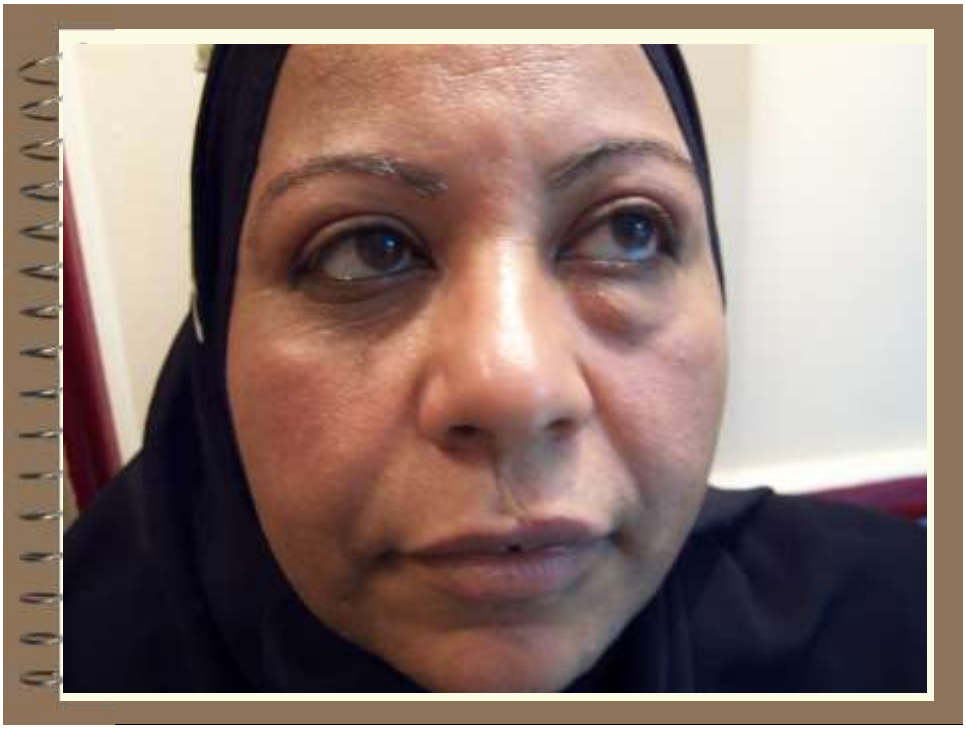
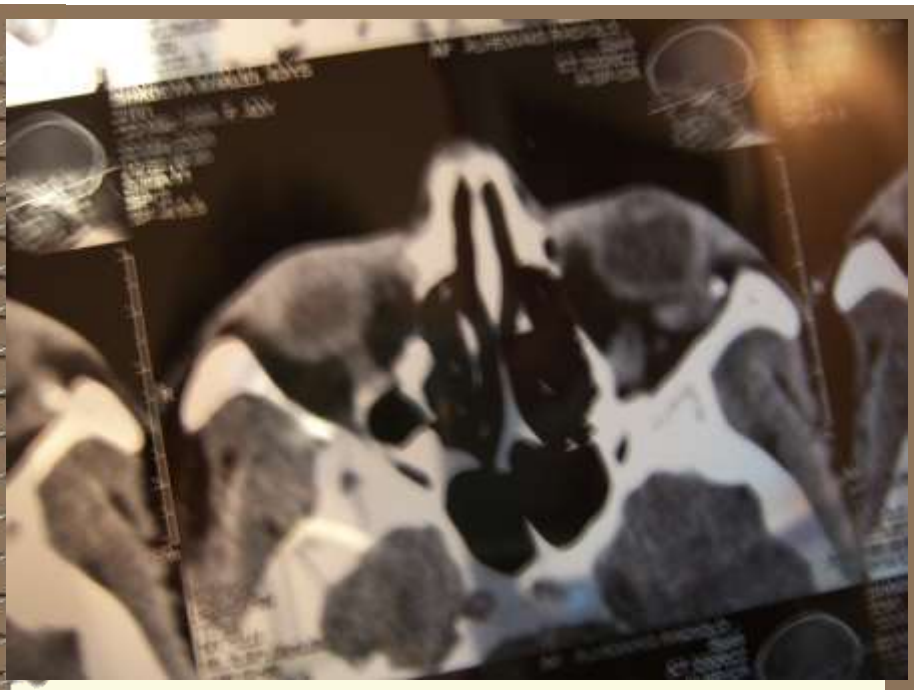
	6l6	6l6

NORMAL OCULAR MOTILITY

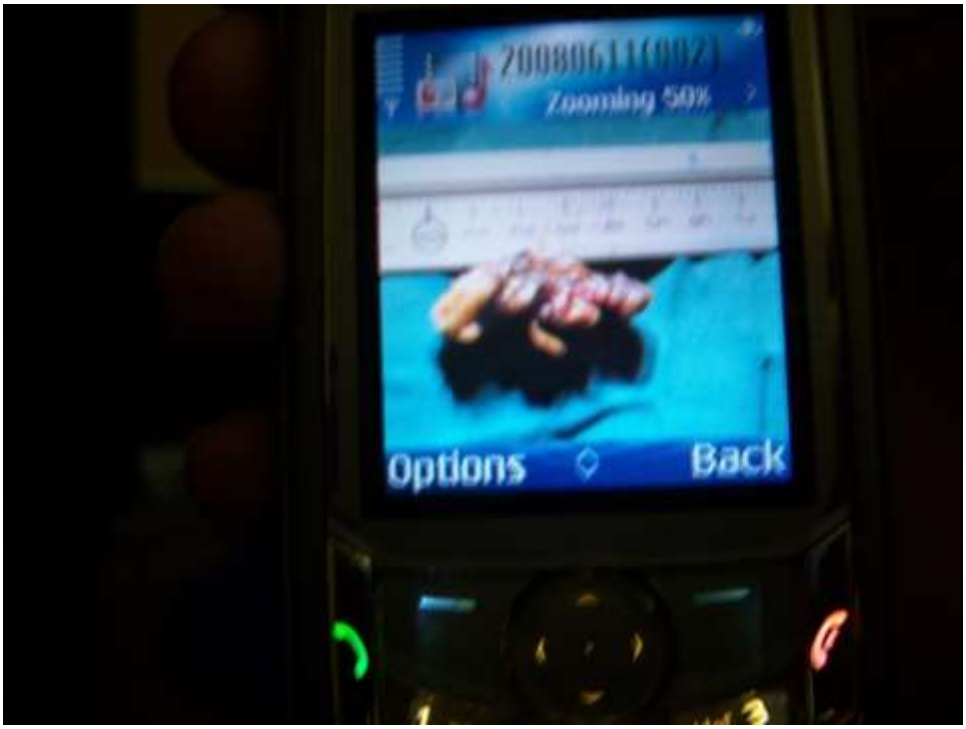
NORMAL PUPILLARY RESPONSE



- Systemic work up was done
  - C T orbit was performed –



SWINGING LOWER LID INCISION WAS PLAANE D AS AN EASY APPROACH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HISTOLOGICAL EXAMINATION

CAVERNOUS HAEMANGIOMA

DISCUSSION

Hemangiomas (benign vascular neoplasms) are classified as capillary and cavernous. A capillary hemangioma usually presents in the first year of life and often increases in size for 6–10 months before slowly involuting. Cavernous hemangiomas are the most common benign noninfiltrative neoplasms of the orbit and have a slowly progressive mass effect.[They are usually present in the second to fourth decades of l

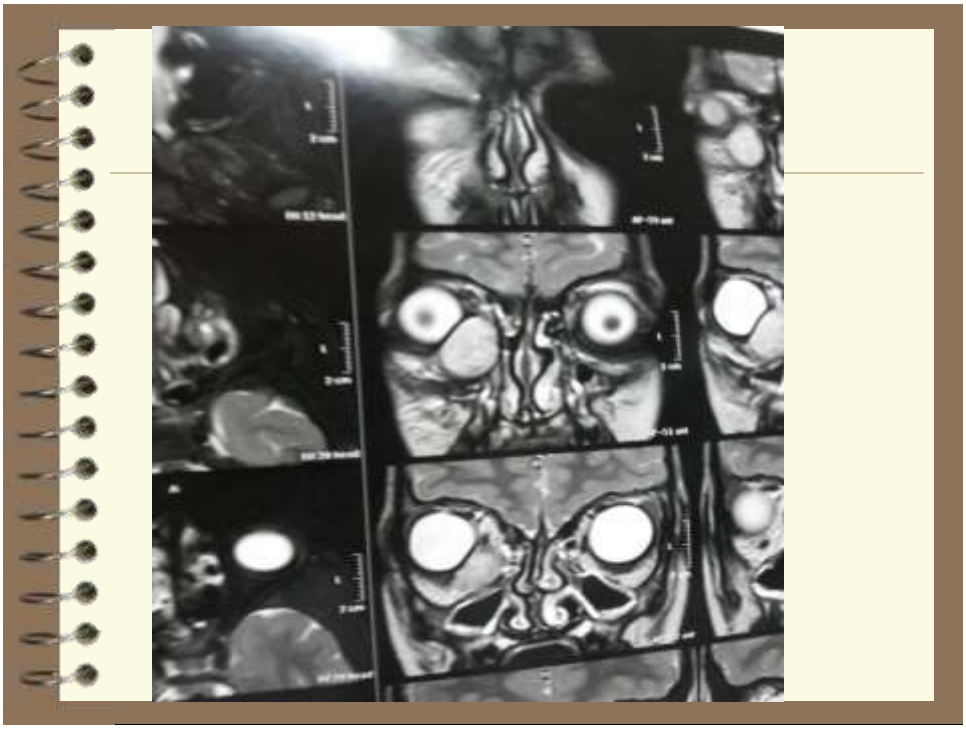
- Most cavernous hemangiomas are typically intraconal and lateral in location. Extraconal and medial locations are uncommon

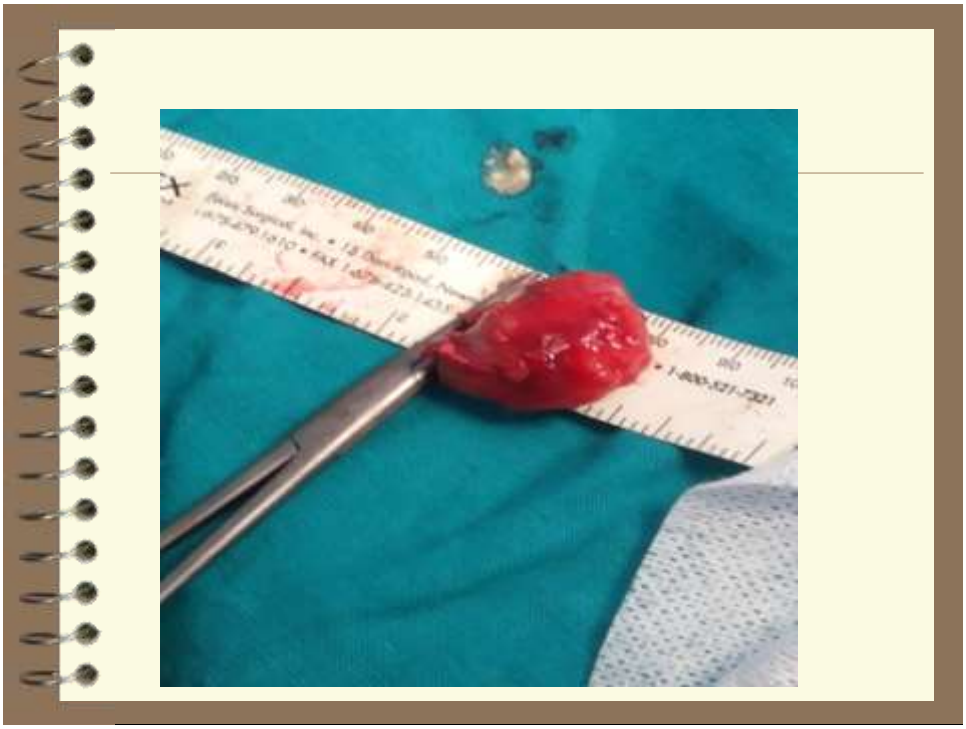
Case NO 2

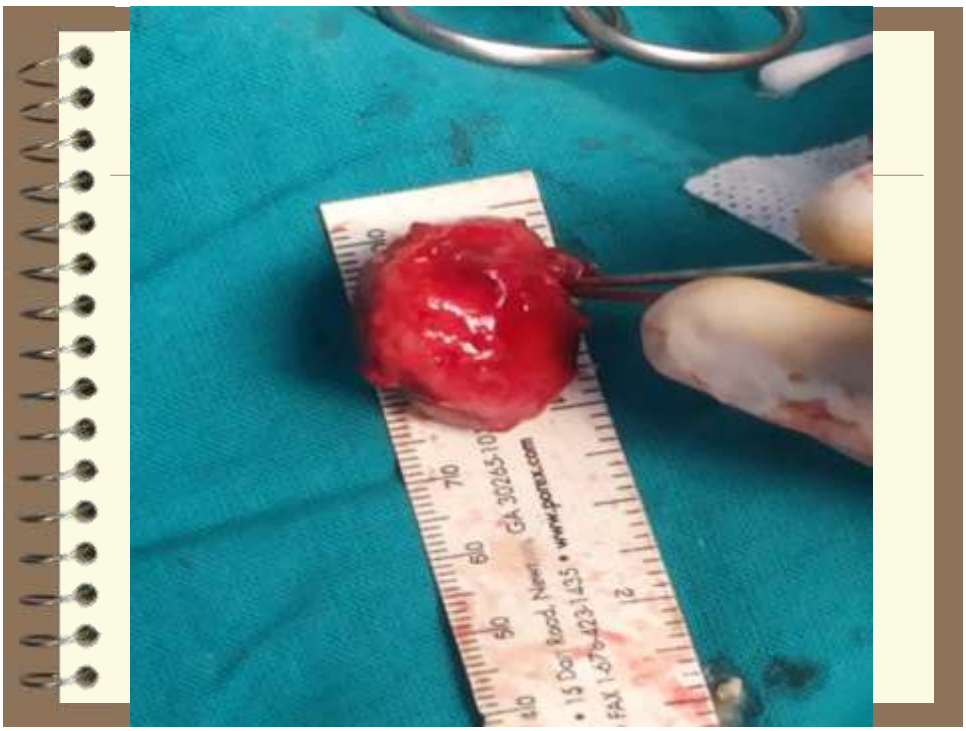
Female patient aged 10 years old presented with complaint of slowly progressive proptosis of the right eye 3 years ago . Ophthalmic exam revealed visual acuity 6l6 bilateral no limitation of ocular motility , fundus is normal , there is a shift of the globe slightly upwards and laterally with a plapaple swelling below the medial palpebral ligament

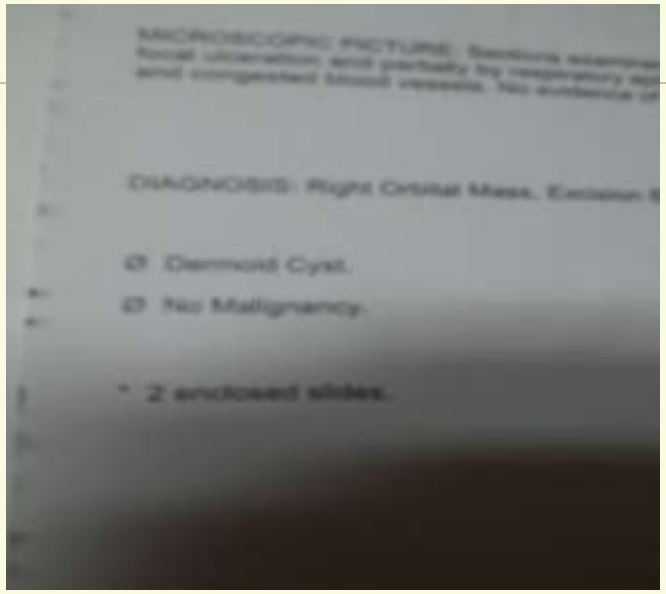
CT & MRI were performed and revealed contrast enhanced mass in the lower orbit with pressuring effect on the floor it has an extension posteriorly , itra orbital cystic swelling

Systemic work up was done and surgical procedure was performed








DIAGNOSIS: Right Orbital Mass. Excision
Dermoid Cyst.
No Malignancy.
2 enclosed slides.

Home message

1-rapidly progressive or acute proptosis should raise our concern about either life or vision threatening condition behind it

2- although slowly progressive or chronic proptosis is not so harmful like acute one but systemic work up and complete opthalmic examination is mandatory

3- CT &MRI are the first hand in the diagnosis