

Complicated Cataract to Intraocular Tumors, Beware of the unexpected

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- In this part of the world: We Master Phakoemulsification



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Intraoperative/Second day postoperative

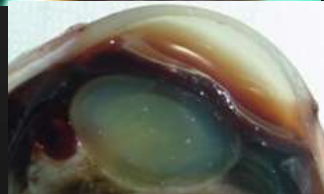
- **Following cataract surgery:**

- Surprise:
 - Ciliary body mass !!!
- DD:
 - Suprachoroidal hemorrhage
 - Mass= Tumor



Anatomy

- **Lens:**
 - Elastic, avascular, transparent highly refractile biconvex disc.
 - Lying in posterior chamber
- **Ciliary body:**
 - Triangular structure
 - **LOCATED IN A SILENT AREA OF THE EYE**

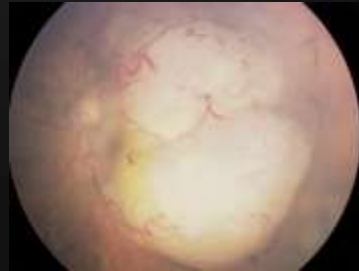


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Materials and Methods

- **Retrospective chart review:**

- 465 cases of uveal mass
- 560 cases of pediatric IO tumors
- Managed from September 2000 to December 2016
- Identification of anterior located tumors compressing the lens



Results:

- **We identified 79 cases of CB masses compressing the lens and inducing:**
 - High astigmatism
 - Focal cataract
 - Operated from cataract/glaucoma surgery

Adult cases

- 55 YOF
- Focal cataract
- CB and choroidal infiltration identified
- Managed elsewhere by enucleation



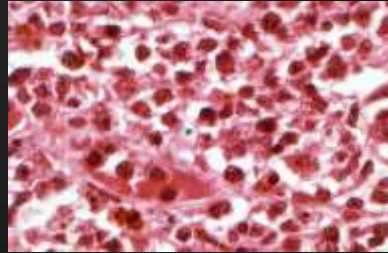
- Extensive uveal and vitreal involvement



- **Non-Hodgkins lymphoma**

- **Typical management:**

- FNAB
- Choroidal biopsy
- Chemotherapy
- External beam radiotherapy

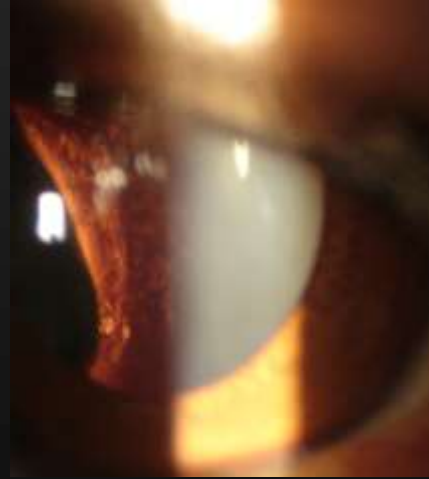


38 YOF
Recent onset
astigmatism
Pregnant



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Beware of new onset
astigmatism/Focal cataract



47 YOM, Phako IOL 1 year
prior



58 YOF, Focal cataract



- 55 YOF
- History:
 - Cataract extraction 1 year ago
- CP:
 - Epibulbar mass
 - Progressive enlargement



- Modified enucleation



- 1 year follow up:
 - Liver metastases



- 72 YOF
- History :
 - Catract extraction and IOL 8 months ago
- Growing epibulbar mass
- Huge sentinel vessels
- Follow up for 8 months !!!!!!!!!



- **Management:**
 - Modified exenteration
 - Spindle cell melanoma
 - Surgical margins are free



- **CAUTIOUS FOLLOW UP**



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- **44-year-old male**
- **DVA OD OS: 6/6 Normal**
- **Past History:**
 - Cataract extraction OD 8 years ago
 - SBP OD 6 years ago
 - Recurrent RD → PPV, endolaser 4 years ago
 - Recurrent attacks of unexplained uveitis and 2ry glaucoma → SST
- **Systemically healthy**

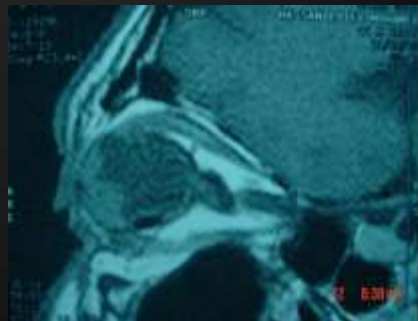
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- VA OD: PL BP
- Anterior segment:
 - Malignant hypopyon
 - Granulomatous KPs
 - Markedly distorted iris
 - Aphakia
- Fundus:
 - Not seen



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- MRI:
 - T1: Sagittal:
 - Soft tissue mass occupying the anterior portion of the globe in CB region
 - Aphakia
 - Normal ON stump



- **MRI**

- Coronal T1 Gd

- Enhancing soft tissue mass in CB region
 - No EOE

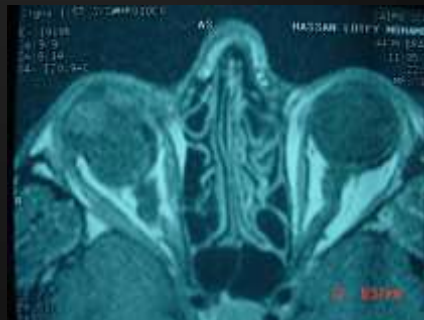


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- **MRI**

- Axial, T1, Gd

- Mildly hyperintense enhancing soft tissue mass in CB region

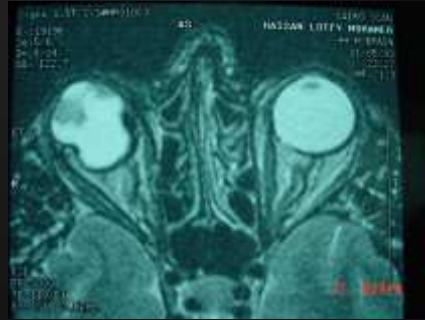


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- **MRI:**

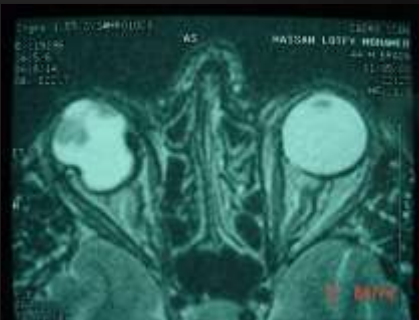
- Axial MRI T2

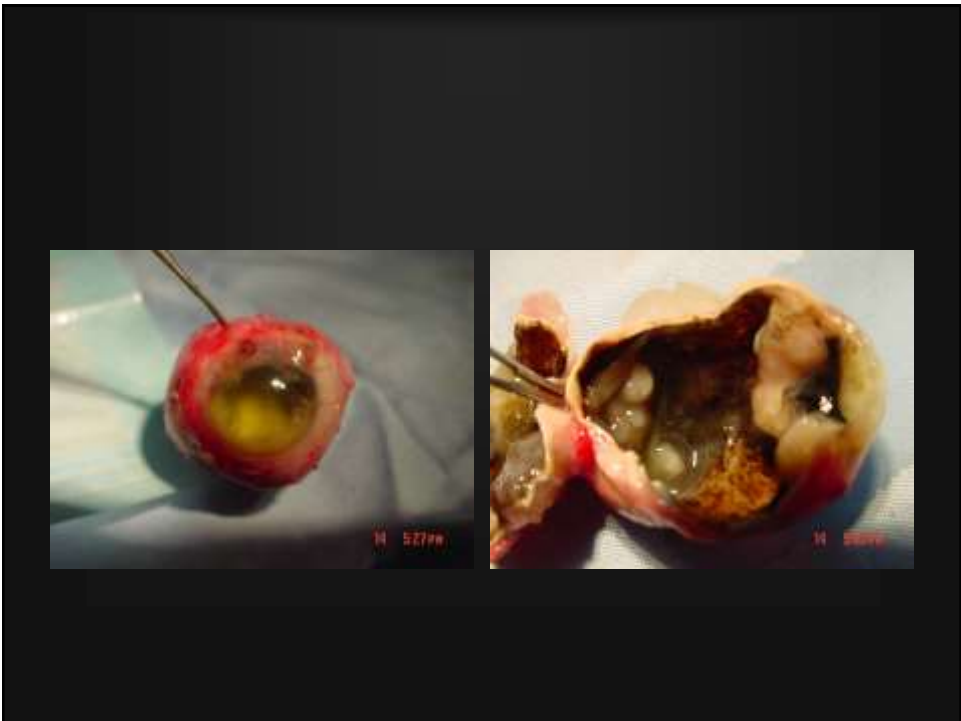
- Hypointense soft tissue mass in CB region
 - Hour glass globe



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Management

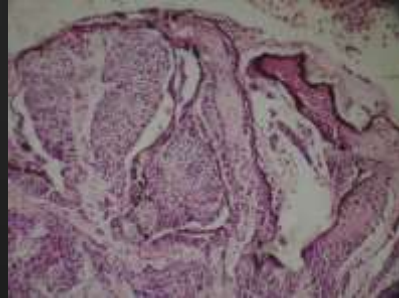




- **Histopathology:**

- **Adult Medulloepithelioma:**

- Non-teratoid
- No malignancy
- AC invasion
- Retinal invasion



- **Explanation:**

- Toxic cataract vs focal cataract
- !!!Exudative RD before buckle
- Rhegmatogenous element following SBP, before PPV
- No masses in CB region during PPV
- Toxic uveitis and secondary glaucoma
- Mass effect

- **Medulloepithelioma:**

- Tumor of NPCE
- Verhoeff: 1904
- Fuchs: 1908
- Ginker: 1931

Teratoneuroma
Diktyoma(Net-like)
Medulloepithelioma
(primary medullary
epithelium)

- **Spread:**
 - Adult type: very rare:due to EOE
 - Optic nerve extension
 - Lymphatic extension
- **Management:**
 - Enucleation
 - Local resection (watch for recurrences)
 - Radiotherapy
 - Chemotherapy

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Young age group

- 8 YOF
- Focal cataract
- Irregular astigmatism
 - Medulloepithelioma



- Brachytherapy
- Lesion stable over 4 years of follow up



- 1.5 YOM
- Iris, CB mass
- Marked astigmatism
- Minimal focal cataract:
 - Scheduled for enucleation



- **DD:**
 - Langerhan's cell histiocytosis (JXG)
 - Rhabdomyosarcoma
 - Granulomatous lesions
 - Others
- **Plan:**
 - FNAB:
 - Epithelial cells
 - No malignancy

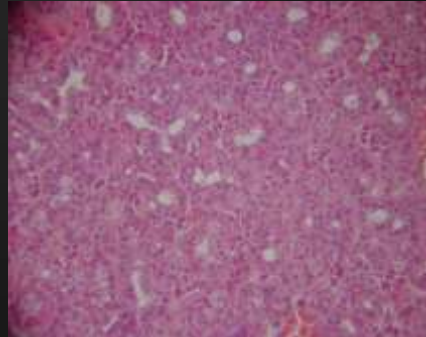


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- **Management:**
 - Lamellar Iridocyclectomy



- Pathology:
 - Ectopic lacrimal gland



Retinoblastoma cases

- Presence of cataract is against the diagnosis of retinoblastoma:
- This is not an absolute statement

Mohamed Hafny

- 8 year-old boy
- History:
 - Multiple surgeries
 - Cataract extraction
 - PPV
 - Multiple iris biopsies
 - Despite presence of round blue cell tumor in iris !!!!!!!



Anterior Segment seeds are misleaders:

- Older age at presentation
- Flat retinal pattern
- Good visual acuity



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- 6 YOF
- Cataract surgery 9 months ago
- Epibulbar mass
- Refusal of enucleation for 3 months



'Mystery Case'

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History

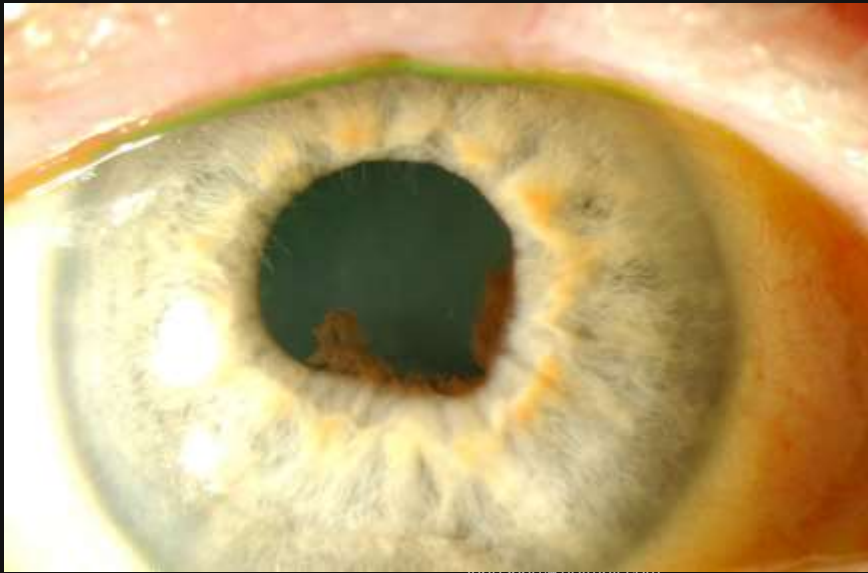
- 62 year old caucasian woman
- Recurrent anterior uveitis OD
- Type II Diabetes
- Referred re ? Ciliary body melanoma

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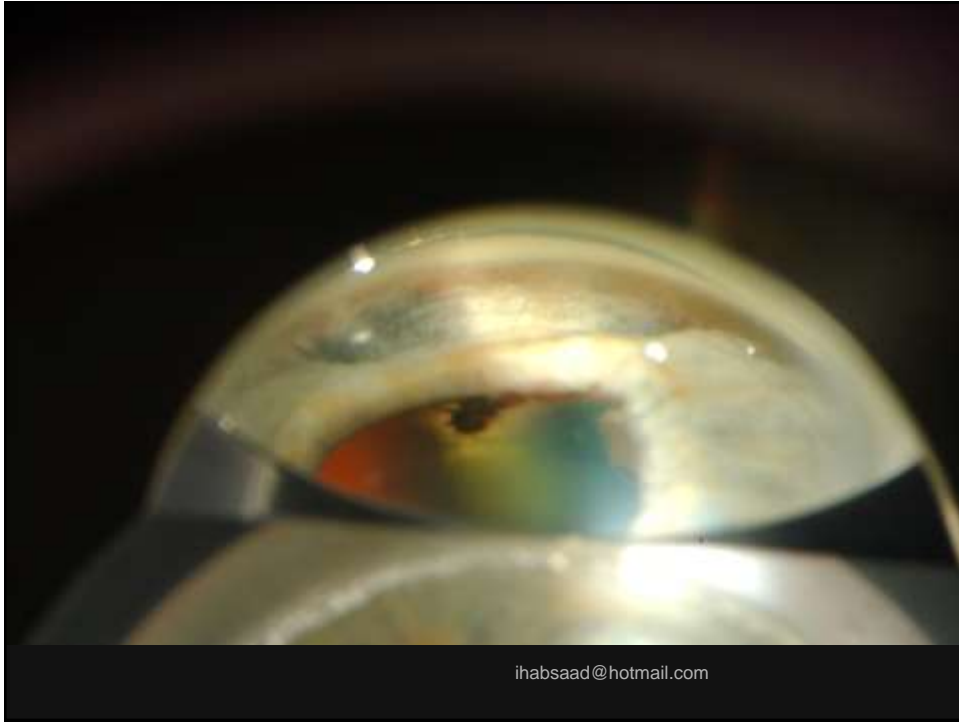
Examination

- 6/12 OD 6/7.5 OS
- Anterior synechiae OD
- No active intraocular inflammation
- Normal IOP
- Mild nonproliferative diabetic retinopathy OU

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UBM - anteroposterior



UBM - transverse



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Differential ?

- Adenoma (non-pigmented ciliary epithelium)
- Medulloepithelioma
- Metastasis
- Melanoma

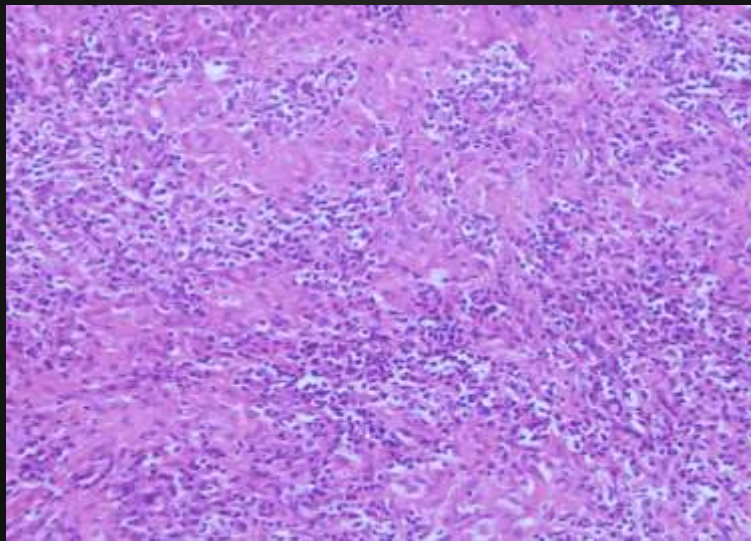
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Specimen



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Specimen



- Granulomatous inflammation
- Non-caseating
- ZN-negative
- ?? Sarcoidosis, chest X-ray normal, ACE normal

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- Extensive endophytic retinoblastoma
- Massive optic nerve and extraocular extension
- Prior management
 - Lensectomy, SST, PPV
- Further management:
 - Chemotherapy x 9 cycles
 - EBRT
 - Intrathecal MX



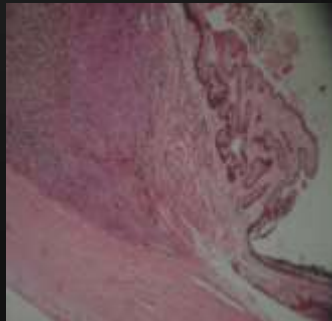
Clues U should not Miss

- Recent Irregular astigmatism:



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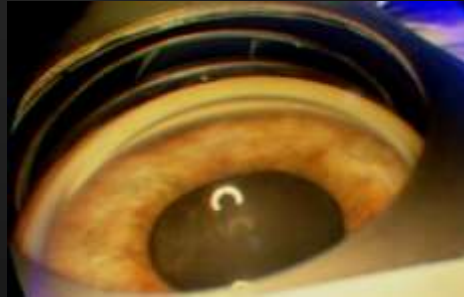
- Sentinel vessels



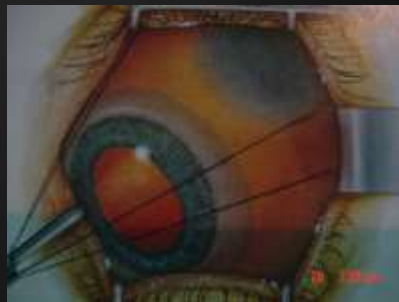
- Epibulbar pigmentation
- Epibulbar mass



- Angle infiltration



- Transillumination:
 - A forgotten art



- **Ultrasonography:**
 - Emphasis on CB region



- **UBM**
 - Subtle CB masses



- Scanning images:

- CT
- MRI



Discussion

- General Ophthalmologist and cataract surgeons should be aware of this presentation despite being rare
- Simple diagnostic tests as in-office fundus examination, transillumination, US would clinch diagnosis
- Most operated eyes are deemed to enucleation
- Early diagnosis and timely intervention is imperative in SURVIVAL

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- Remember:

- WHEN DEALING WITH CANCER
YOU ARE DELAING WITH LETHAL
DISEASE
YOU ARE DELAING WITH HUMAN LIFE

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Thank YOU

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