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Blepharitis.. or maybe something else?

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Athens Vision

Case presentation

- **c/c**: December 2018 a 57 yo female presented for LUL edema and tearing x4 months. Last month worsening edema and bulging. No pain, diplopia or visual acuity distortion.
- **History of present illness**: August 2018 diagnosis of conjunctivitis treated w/ antibiotics/steroid combination drops ➡ eyelid edema persisted ➡ diagnosis of blepharitis (3 consultations) ➡ lid hygiene and combination drops. Symptoms persisted. Negative thyroid function tests and thyroid antibodies.
- **PMH**: Thyroiditis 9 years ago and thyroidectomy, no Hx of malignancy.
- **POH**: Free

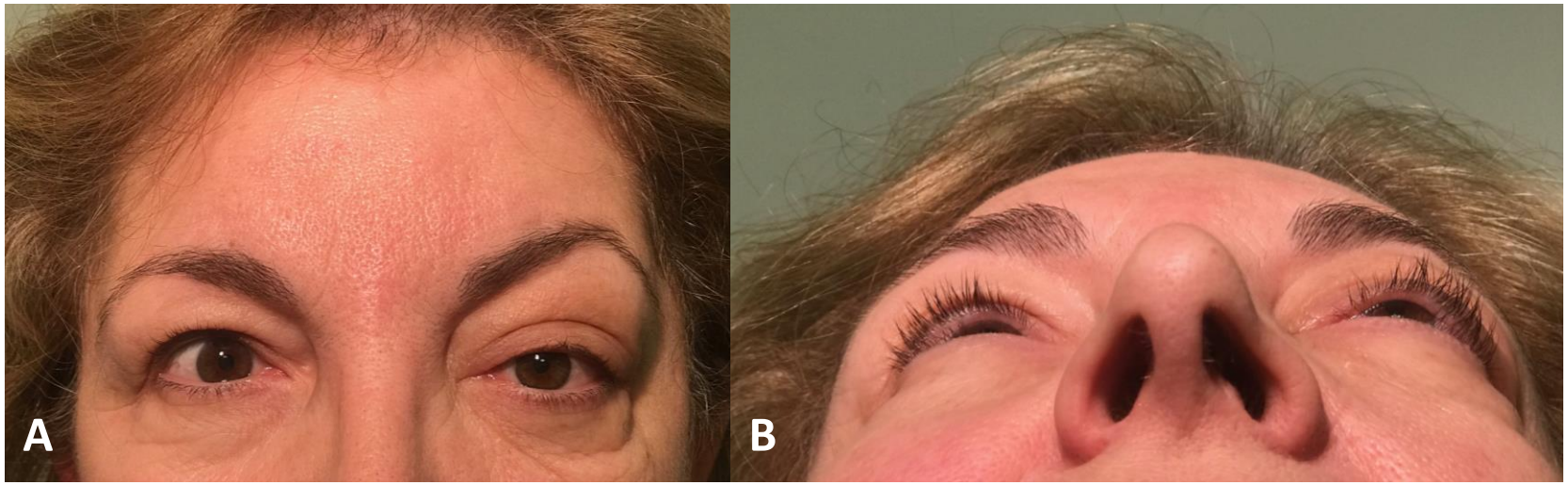

Figure 1. Patient's photographs (A) en face showing downward displacement of the left globe, (B) 'ant's-eye view' showing proptosis of the left globe.

Examination findings

	OD	OS
BCVA	20/25 (+4.00-0.50*90)	20/60 (+4.50-1.00*90)
Pupils	PERRL, 3->2, no APD	
IOP	15 mmHg	16 mmHg
EOMs	Full	Restricted (-2) upgaze, downgaze; (-1) abduction. No pain
Exophthalmometry (Hertel) Base 122	20	27
Ishihara color plates	11/11	
CVF	Full	

	OD	OS
L/L	Normal	Edema; Palpable, firm, painless mass superiorly; hypoglobus; resistance to globe retropulsion
C/S	Normal	Chemosis
K	Clear	
A/C	D/Q	
I	Flat, round pupil	
L	NSC (++) and CC(++) OS >>OD	
Vit	Normal	
Disc	Normal	
Macula	Normal	
Vessels	Normal	
Periphery	Normal	

Differential diagnosis and Work-up

1. Unilateral, progressive, painless lid edema
2. Restricted ocular motility
3. Globe displacement (proptosis and hypoglobus)
4. Resistance to retropulsion
5. Palpable, firm, painless mass
6. No bruit
7. Chemosis

Mass effect → Infectious / Inflammatory / **Neoplastic** / Vascular

➢ <u>Brain and orbital MRI</u>:

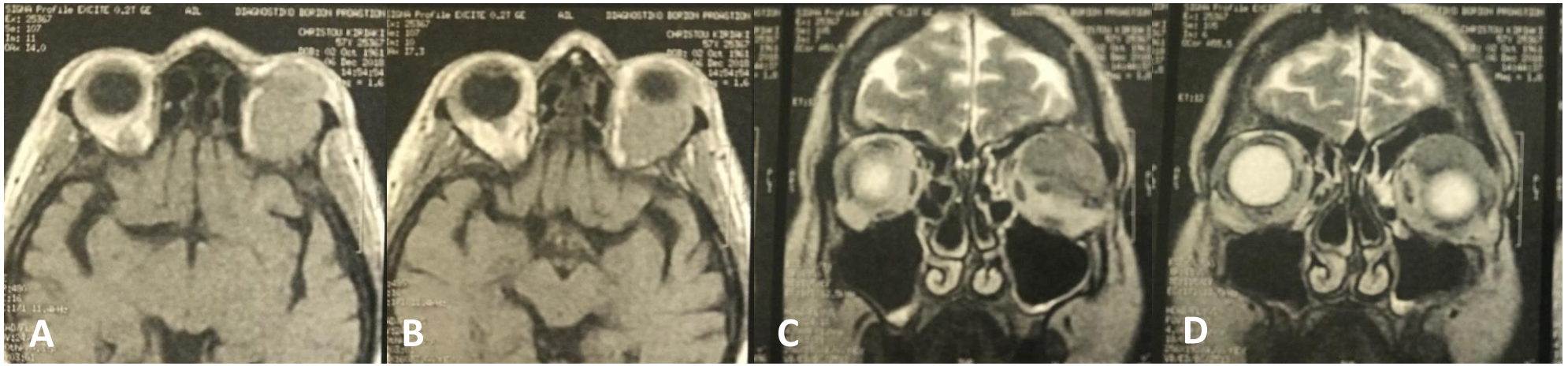

Figure 2. (A,B) Axial T-1-weighted images showing a diffusely infiltrating left orbital mass hyperintense to vitreous and hypointense to muscle. (C,D) Coronal T-2-weighted images showing a left orbital mass isointense to muscle.

Case management

- One week after identification of an orbital tumor with MRI ➡ Orbitotomy and biopsy ➡ confirm diagnosis and proceed w/ subtype classification.

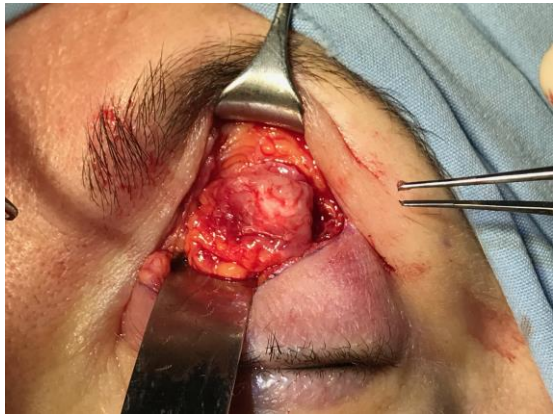

Figure 3. Intraoperative photograph showing the left orbital mass with a gelatinous appearance.

- **Diagnosis**:
  - ➢ Histopathology and immunohistochemistry (IHC): Diffuse Large B-cell Lymphoma (DLBCL), non-GC phenotype, CD20+, CD5+, CD10+, CD30+, Bcl-2+, Bcl-6+, c-MYC+;
  - ➢ FISH check for rearrangements-> c-MYC +, Bcl-2 -
  - ➢ Brain, chest and abdominal CT scan: negative; Systemic blood work up: negative

  - ➢ **DLBCL, Ann Arbor stage IE (i.e. extranodal lymphoma limited to the ocular adnexal region)**

- **Treatment**: chemoimmunotherapy Rituximab/Cyclophosphamide/Doxorubicin/Vincristine/Prednisone (RCHOP) x6 w/ Central Nervous System (CNS) prophylaxis w/ intrathecal methotrexate (MTX) and dexamethasone x5.

- **Follow-up**: first 2 yrs q6 months imaging (brain and orbital MRI). After this, yearly blood tests and imaging. Pt free of disease.

Orbital Lymphoma (OL)

- **Lymphomas** are malignant lymphoid tumors arising as clonal proliferation of either B-lymphocytes, or T-lymphocytes, or less commonly natural killer (NK) cells.
- Lymphoma is the **most frequent malignancy of the ocular adnexa** and comprises 5-10% of all extranodal lymphomas. **Ocular adnexal lymphoma (**OAL) can arise in the conjunctiva, eyelids, and orbit including the lacrimal gland. **Orbital lymphomas** (OL) constitute 50-60% of ocular adnexal lymphomas. It can be either primary or secondary/metastatic.
- The majority of OL were of B-cell origin. There are different B-cell **lymphoma subtypes (**WHO classification), with the most frequent being the Extranodal marginal zone B-cell lymphoma (EMZL) , Diffuse large B-cell lymphoma (DLBCL), Follicular lymphoma (FL), and Mantle cell lymphoma (MCL).
- OL primarily affects **elderly** patients (>65 yo), w/ slight male predominance. Patients suffering from **immunosuppressive** and autoimmune disorders are at increased risk for developing lymphoma.
- Most common **clinical presentation**: lid edema, proptosis, globe displacement, restricted motility, pain, palpable mass.
- **Diagnosis** consists of: **1.** complete ophthalmic examination; **2.** brain/orbital MRI or CT-scan; **3.** biopsy for histopathologic examination (indolent (e.g. EMZL) vs aggressive (e.g. DLBCL) subtypes), with immunohistochemical and molecular analysis.
- **Systemic involvement-** Ann Arbor **staging** classification requires complete diagnostic examination: 1. CT scan or full-body PET-CT or MRI; 2.blood tests; 3. a bone-marrow biopsy.
- **Treatment**: surgical de-bulking, radiation therapy for indolent lymphomas, chemoimmunotherapy (e.g. R-CHOP) for aggressive lymphomas and CNS prophylaxis.
- The histopathological subtype and clinical stage of the lymphoma are the best indicators of **prognosis;** in general high rates of long-term disease-free and overall survival.

Conclusion

- A thorough approach should be implemented for orbital disease;
  - 6Ps: **P**rogression, **P**ain, **P**roptosis, **P**alpation, **P**ulsation, **P**eriocular changes.
- The 8-point exam should always take place.
- A persistent eyelid edema not responsive to topical therapy warrants further examination.
- Any patient presenting with unilateral proptosis should be referred for imaging (MRI or CT scan) on the suspicion of malignancy.
- Lymphoma is the most frequent malignancy of the ocular adnexa.

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