Grand Round
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Case Presentation

- CC: “increasing size of left eye
- HPI:46 y.o Female c/o of left eye “swelling” and associated with burning and tearing x 4 days.
- Patient was brought to ER by family because of an episode of syncope with AMS, weakness and abdominal pain.

Interpersonal and communication skills, patient care

Case Presentation

PMH:

- HIV+ x 12 years, recently started on HAART,?CD4 unknown by patient but last confirmed as <200
- Hx of +PPD, treated with INH
- Psychiatric disorder

POH: None

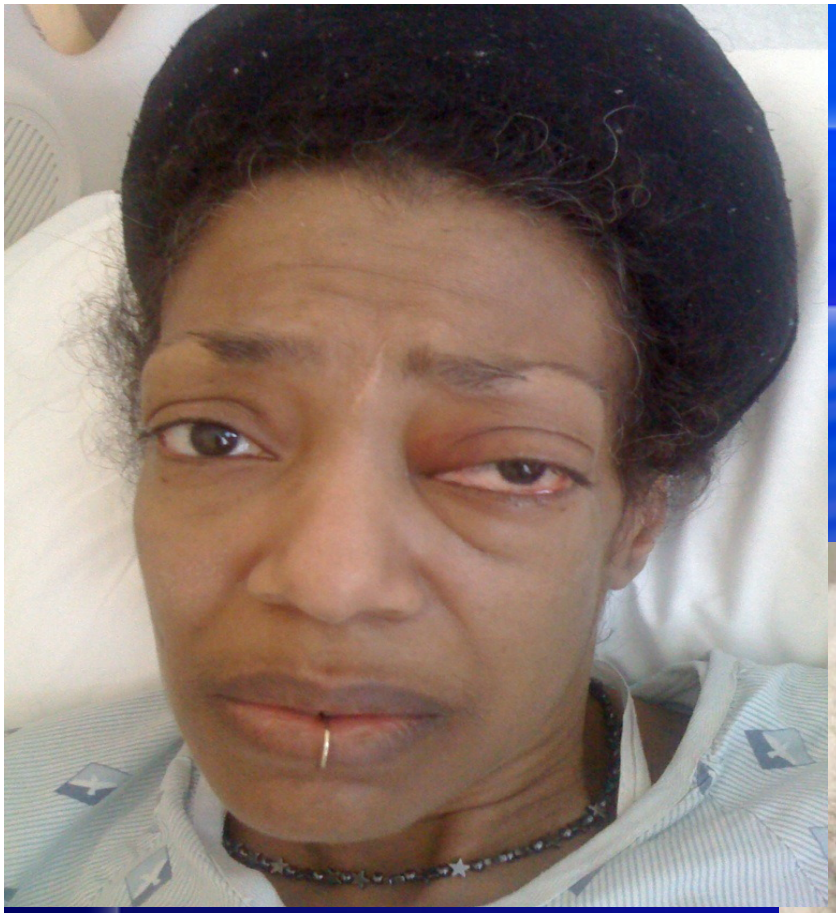
ALL: NKDA

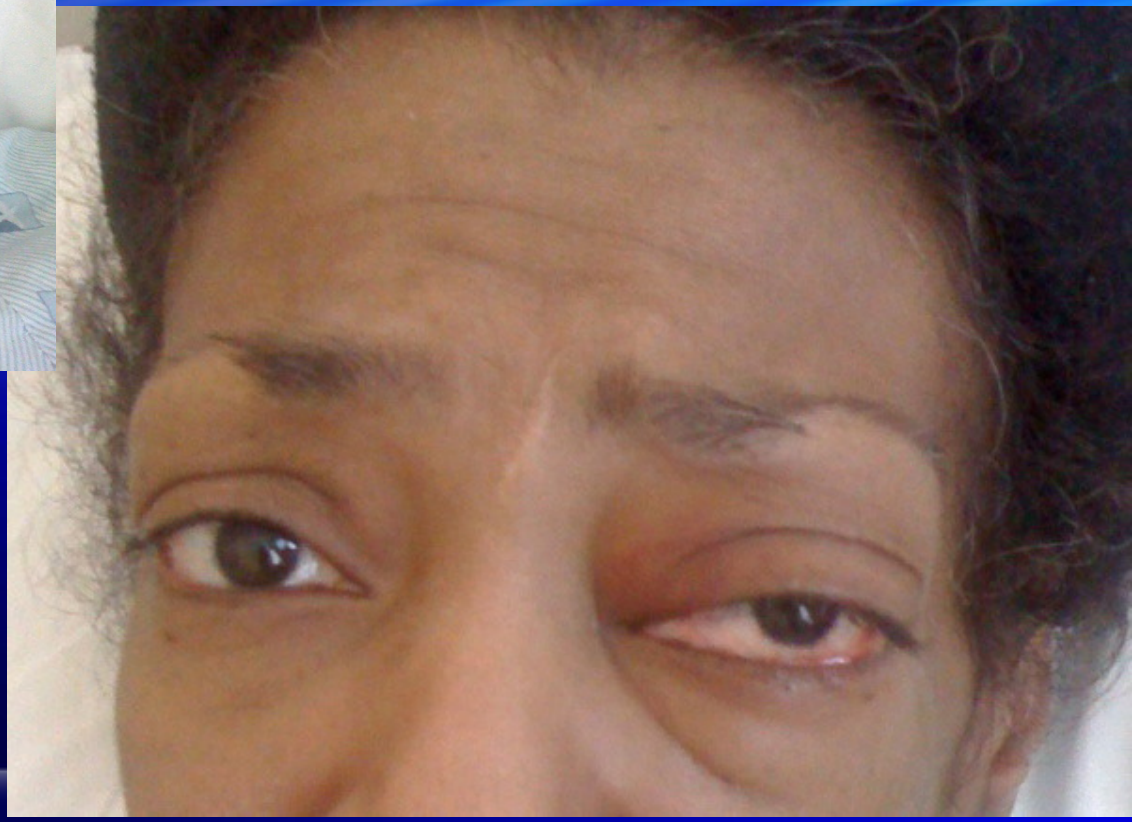
Sochx: ex-smoker

Famhx: no glc or blindness

Meds: Truvada, seroquel, zolpidem, Dronabinol

EXTERNAL PHOTO





Case Presentation

- Nvasc: 20/25, 20/30 (+2.00)
- P: 4-2mm, no APD
- CVF: full ou
- EOM: Full OD,
- OS: -1 limitation medial and -1/2 lateral gaze, -1/2 up and downgaze
  - Patient denies diplopia or pain with eye movement
- Color: Full ou
- **Hertels: 122: 19,24**
- Tpen: 14, 18 @ 7pm

  +resistance to retropulsion

Physical Exam/PLE

- VS: T100.1, HR 105, RR 22, 131/81
- HEENT: no LAD, no thrush, no necrotic nasal or oral lesions
- LLA: trace edema OD, +edema nasally LUL, LLL with trace erythema, + ptosis OS and fullness to LUL
- C/S w/q OD, + 1 injection and chemosis temporally OS, no discharge
- K: clear OD, Few inferior PEEs temporally OS
- AC formed and symmetric
- IP rr, intact ou

DFE

- V: clear ou
- D: s/p ou, c/d 0.4 ou
- M: flat ou
- V; wnl OD, Mildly dilated OS
- P: WNL od, no heme, holes, tears or chorioretinal folds ou

DDX for Unilateral Proptosis:

DDX unilateral proptosis

Endocrine/Inflammatory

- ***Thyroid eye disease**
- Orbital pseudotumor

Neoplastic:

- ***orbital metastasis**
- ***lymphoma**
- **optic glioma**
- **meningioma**
- **hemangioma**
- Hemangioblastoma
- orbital rhabdomyosarcoma
- leukemia

Misc:

- Pseudoproptosis contralateral enophthalmos

Infectous

- **Orbital cellulitis**
- ***Orbital abscess**
- **+Mucormycosis**

Trauma

- retrobulbar hematoma

Vascular:

- Carotid art-cavernous sinus fistula
- cavernous sinus thrombosis

Granulomatous

- Wegners
- Histiocytosis
- Hand-Schullar Christian syndrome

Congenital:

- orbital dermoid
- cavernous lymphangioma

More history…

On ROS patient reports constitutional symptoms including weakness, night sweats and weight loss of 15lbs/3 weeks and loss of appetite

Patient also reports BRBPR over last few months which she attributed to hemorroids

What are our next steps???

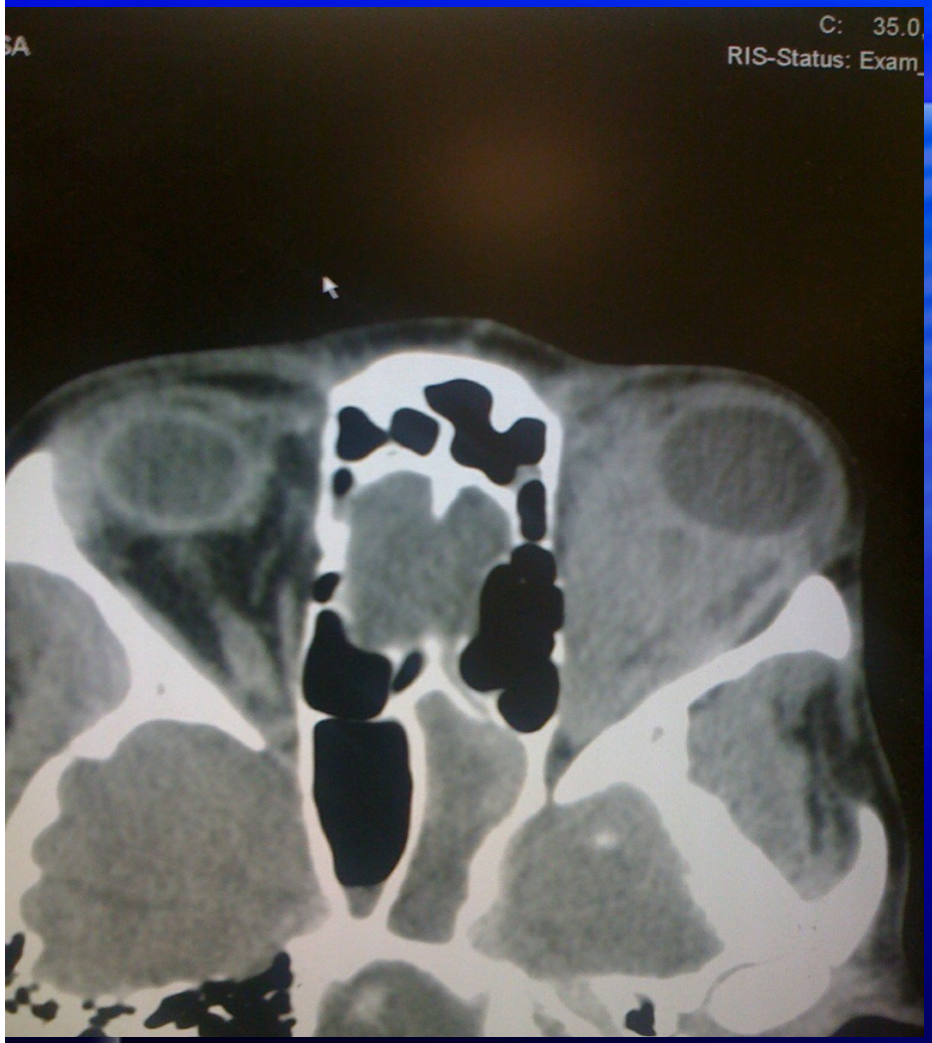
- Laboratory workup: cbc, cmp, coags, TFT, CD4 /Tcell subset, viral load, blood cultures x 2, amylase, lipase, hemoccult
- Imaging: MRI or CT orbits, CT abd /pelvis/chest

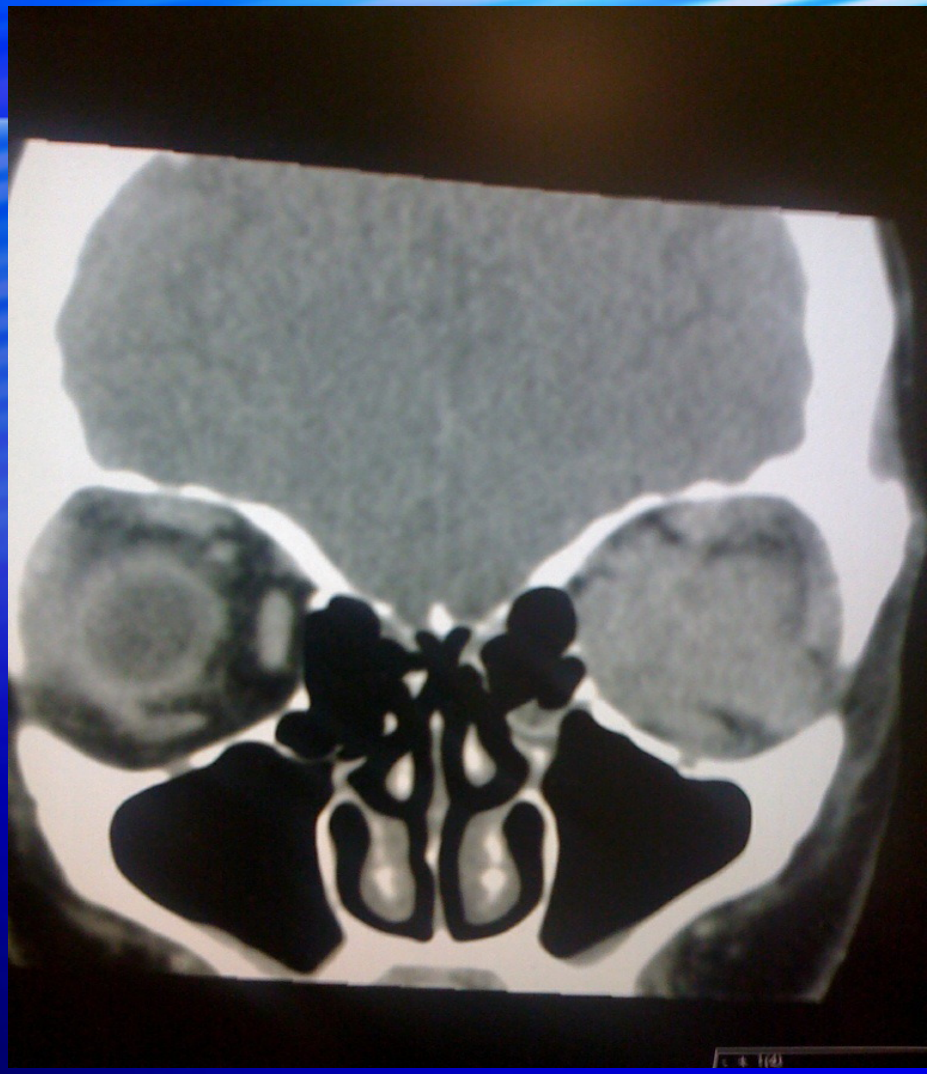
Medical Knowledge, patient care

Labs:

WBC: 2.9 (L)
H/H: 8(↓13)/25.5
Plat:249
Na: 135, K:4.6, cl:107, bun:12, Cr: 0.6
Amylase: 118, Lipase: 391
Hemoccult + stool
TFT; normal

Imaging





What next???

HOSPITAL COURSE

- Patient was transfused 3 units of PRBC for anemia
- Patient was scheduled for an MRI but unfortunately refused test
- CT scan of abd/pelvis
  - revealed several scattered low attenuation lesions in liver (some>3cm), an 18mm lesion in head of pancreas, and L hilar kidney mass, and retroperitoneal lymphadenopathy. Patient also had thickening of folds of stomach wall.
- Patient had mild SOB, TTE performed and revealed moderate size pericardial effusion w/o evidence of tamponade.CT surgery consulted- no intervention
- Patient was scheduled for EGD/Colonoscopy by GI service for possible GI bleed
- Patient was scheduled by our service for L orbitotomy/ biopsy of orbital mass.

Medical Knowledge, patient care

Surgical Pathology

Orbital tissue: High grade Malignant B-cell lymphoma

EGD: revealed several friable masses in body, antrum of stomach extending into duodenal bulb. Surgical path also consistent with high grade malignant B cell lymphoma

Immunohistochemistry : +CD10, Bcl-6, CD20, and Ki-67, Neg: Bcl-2, CD 3

Final dx: Burkitt Lymphoma vs Intermediate Diffuse Large B-cell Lymphoma

Orbital Lymphoma and AIDS

Ocular manifestations

There is a long list of ocular manifestations associated with HIV that affect eyelids, orbit, adnexa, anterior and posterior segments

Orbital involvement, with HIV is seen less commonly

1) infectious:

Aspergillus, Mucor, Toxoplasma gondii, and Pneumocystis carinii. HIV infected Children may present with recurrent episodes of orbital/peri-orbital cellulitis.

2) orbital lymphoma

Background

- The association between Non Hodgkin lymphoma and AIDS has been well recognized. However, orbital involvement is rare
- HIV -associated lymphoma was first incorporated in the US CDC definition as ands AIDS defining illness in 1985
- Before HAART, accounted for 3-4% of all AIDS defining illness (reported to CDC)
- In the HAART era, steady 1.6%
- Without effective ART, CDC estimated that 5-10% of all HIV-infected individuals will have lymphoma as either an initial or subsequent AIDS defining illness

Background…

- Approximately 95% of HIV associated lymphomas are B cell origin (CD 19, CD20 +) and Non-Hodgkin's
- 1991 review(2,500 cases of HIV-1-associated lymphomas revealed that approximately 80% arose in the periphery 20% arose in the central nervous system (CNS)
  - This distribution of lymphomas remains the same in the era of highly active antiretroviral therapy era

Non Hodgkin lymphoma:

- NHL is a malignant neoplasm derived from a clonal proliferation of B or T Lymphocytes
- There are more than 40 different subtypes, which can arise in extranodal tissue and in lymph nodes
- In general, orbital lymphomas account for ~2% of all NHL
- Fourth most common malignancy among male and females

Systems based practice, practice based learning

NHL orbital lymphoma

REAL (Revised European American Lymphoma) the 4 most common orbital lymphomas in the general population:

1)MALT(Mucosa-Associated Lymphoid Tissue) 40-60%

2)CLL -Chronic Lymphocytic Lymphoma

3)Follicular center lymphomas

4)High grade lymphomas (Mantle, Diffuse large cell, Burkitt, B-ALL)

Pathogenesis

- AIDS related lymphoma is thought to arise as a consequence of long-term stimulation and proliferation of lymphocytes due to HIV virus itself
- The reactivation of prior EBV infection secondary to immunosuppression likely plays a role.
- Activation of c-myc and bcl oncogene is probably involved in the pathogenesis

(C-MYC translocaton 8:14 in Burkitt's)

Clinical presentation of orbital lymphoma

- Gradual, painless palpable mass in orbit or eyelid (In the high grade , HIV associated lymphomas, onset may be more rapid)
- Proptosis
- Eyelid or periorbital swelling
- Ptosis
- Excessive tearing
- Diplopia
- Limitations of EOM
- Blurry vision
- +APD

Clinical features of HIV associated lymphoma and Epidemiology

- Cummulative risk for lymphoma is 3-8% in AIDS patients
- 1-3% of AIDS patients with NHL will have orbital
- Rapid and aggressive course

  which may be interpreted initially as infectious or inflammatory
- Much higher incidence of extranodal involvement in HIV infected patients with NHL approx 78%-98%(Reifler et al1994)

  As compared to approx 50% (Hatef 2007)
- GI tract most common extranodal site

Imaging:

CT ORBITs :

*classically will reveal “puttylike” molding of the tumor to normal structures.

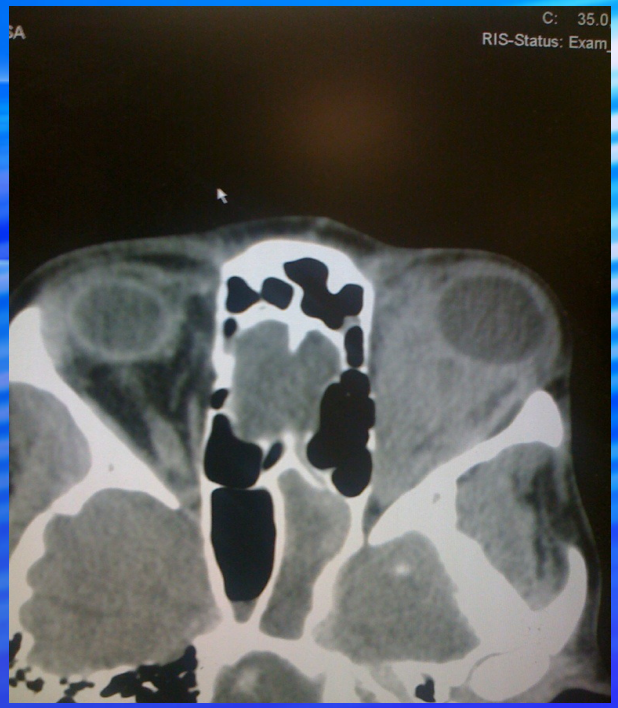
*Bone erosion or infiltration is rare except sometimes in high grade malignant lymphomas. *Up to 50% orbital lymphoproliferative lesions arise from lacrimal fossa

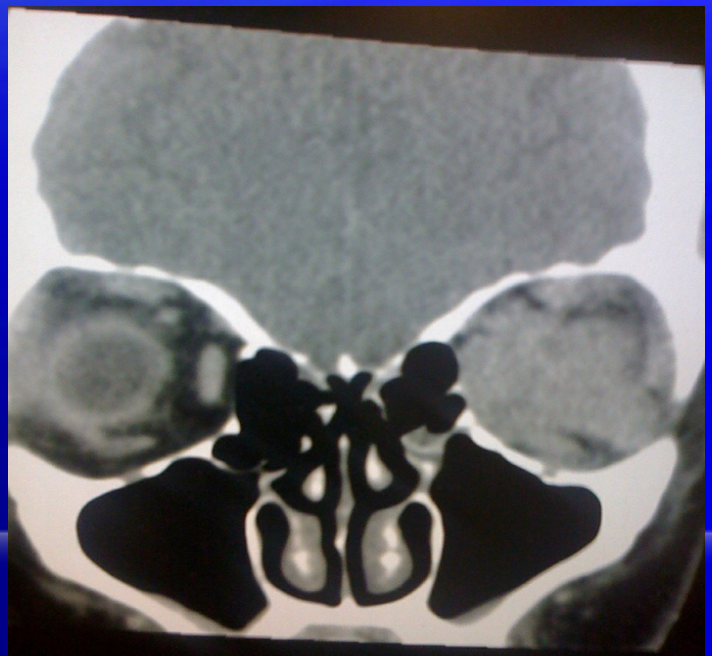
In AIDs associated:

-Indentation and/or globe displacement.

-Bony destruction

-extension into paranasal sinus





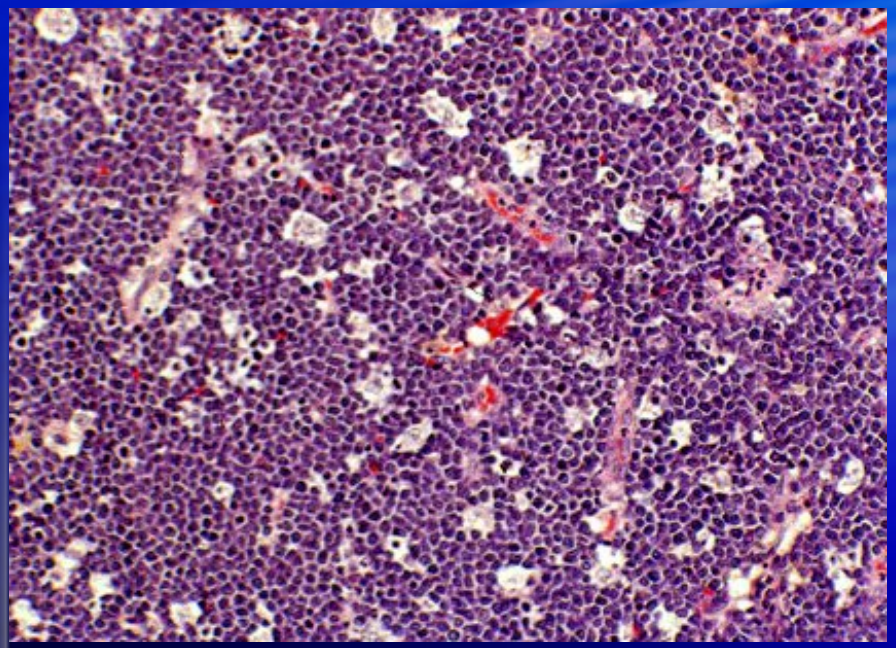
Diagnosis

Open biopsy is preferred

Histopathologic features of AIDS associated lymphomas

- 62-81% AIDS patients have high grade NHL
- Approximately 75-80% of these lymphomas are classified histologically as large-cell lymphomas and the remaining, 20-25% as Burkitt (or small-cell)
- Compared to general population: Burkitts makes up <10 % of intermediate and high grade (remember most NHL are low grade)

Burkitt's Lymphoma



- "starry sky" appearance
- Neoplastic Bcells (purple) with macrophages (white
- Sm to med size lymphocytes
- Mitotic figures
- Round to oval vesicular nuclei
- 1-3 prominent nucleoli

Large B cell lymphoma

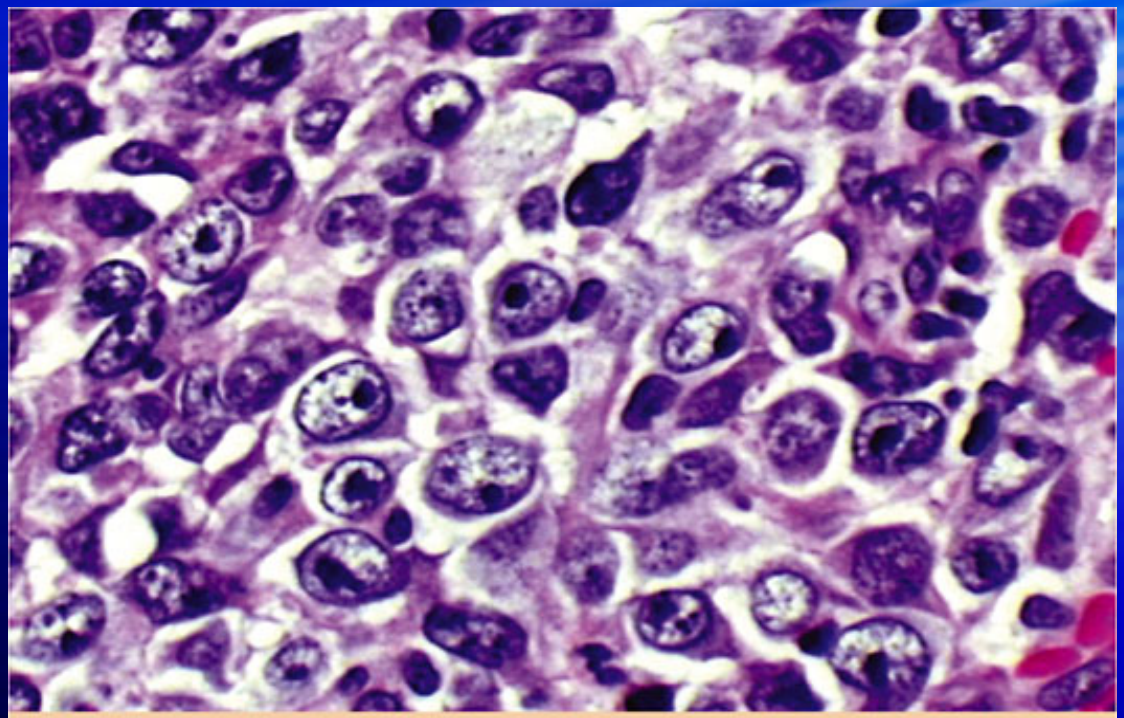


Figure 5.8 Diffuse large B-cell lymphoma histology. (Courtesy of Professor E Campo, University of Barcelona, Spain)

- Large cell
- Single prominent nucleolus in a central location

Treatment

- Treatment depends on many factors, type of lymphoma, morphologic and pathologic features, systemic involvement, CD 4 count, Most importantly, the patient's and family's wishes
- Prognosis is generally poor
- Initial attempts to treat High grade lymphomas in HIV patients aggressively resulted in many patients succumbing to fatal relapses, opportunistic infections, and had a decreased quality of life
- Generally, modified form of chemotherapy with lower dose +/- radiation maybe offered
- HAART therapy is usually started after chemo/radx

Back To Our Patient…

- Patient was counseled on her diagnosis and prognosis and oncology was consulted in house.
- Patient was discharged a few days later after her condition stabilized. Repeat TTE showed no increased size in pericardial effusion. Her H/H remained stable and patient did not require further transfusion.
- Unfortunately, oncology follow-up notes have not been made available in the patient's medical record from SUNY downstate as of yet.
- Patient missed her follow-up with ophthalmology

Interpersonal and communication skills, patient care

Reflective Practice

- Even in the “HAART era” we still encounter numerous patients with ophthalmic manifestations associated with HIV
- To consider HIV associated lymphoma when presented with HIV positive patient with unilateral proptosis, regardless of CD4 count
- I feel this patient was managed appropriately and in a timely manner.

Core Competencies

Patient Care- compassion and appropriate management was displayed

Interpersonal and communication skills: explained to patient and family members in non-medical terminology our recommendations.

Medical knowledge: reviewed clinical and scientific features of orbital lymphoma and sought appropriate expertise from other services, such as oncology and radiology.

Professionalism: this case stressed the importance of a multidisciplinary approach. Informed consent properly obtained prior to procedures.

Practice based learning: used evidence based medicine to manage patient care

Systems based practice: appropriate tests and diagnostic studies were selected based on necessity to appropriately manage patient

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