

1 **Ten Tests that Save Your Patient's Life/Sight**

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3 **The Tests**

4 **CASE 1: A TALE OF TWO BLEEDERS**

- 50 y/o hispanic male presents to acute care eye clinic with complaint of “bleeding eyes”
- VA w/o correction 20/25 OD, OS
- IOP 16 OU
- Pupils: 4mm, +3RX, RD, (-) APD

5 **Lab Tests??**

1. PT, PTT
2. CBC, ANA
3. CBC, INR, HEPATIC PANEL, BT
4. ESR, CRP, ANA, HLA-B27
5. FASTING GLUCOSE & LIPID PANEL

6 **Significant Lab Results**

- CBC: Generally Normal
- PT: 13.1BH, PTT: 35NML, INR:NML
- Hepatic: Alk Phos 281 VH, Bili.1.8H Alt (SGPT) 55H (OFF THE SCALE)
- Glucose: Normal
- ESR: 36H

7 **Bleeder #2**

- 76 y/o white male with periocular bleed OS
- Does not drink
- GLC patient
- HX of recent, recurrent bruises on arms and epistaxis
- Normal DFE, IOP
- In spite of being married, denies trauma

8 **Current Meds**

- 1 325mg ASA/D
- Timoptic 0.25% BID OU
- Trusopt TID OU

- Zantac
- Glucosamine
- Vitamin E 400U BID
- Vitamin C
- Multivitamin

9 **Bleeder #2**

- BP: 140/68
- CBC: WBC: 1.1VL, RBC: 2.77VL, HCT: 29VL, HGB: 9.9VL, PL 57K VL, Neut: 0.3VL, Lymph, 0.7VL, Mono: 0.1VL, Neut: 18%VL, Lymph 61%H
- PT, PTT: Both normal
- Renal and Hepatic: Normal
- Glucose: 97nml

10 **Cause of hemorrhage?**

1. Hepatic failure
2. Reduced platelets
3. Renal failure
4. Leukemia
5. Drug induced

11 **Case 2: The “Simple” Conjunctivitis Case**

- 28 YO WT male with C/O red, painful OD X 1 month-first occurrence
- TX by primary care doctor with gentamycin drops QID
- Told to use till gone
- Told he has “pink eye”

12 **HISTORY (Cont’d)**

- BVA CF’s at 3 feet OD/20/20 OS
- A/C Deep with +3 cell and flare OD
- Post-synechia 270 degrees OD
- IOP OD 2mm hg/ 17mm Hg OS
- (+) Hx lower back pain

13 **Differential Diagnosis?**

- 1. EKC- Adenoviral conjunctivitis
- 2. Acanthamoeba keratitis
- 3. Anterior uveitis
- 4. Spondylarthropathy induced uveitis
- 5. Possner-Schlossman Glaucomocyclitic- crisis

14 **Tests?**

- 1. HLA-B27 and Spinal and chest x-rays
- 2. ESR, ANA and RF (rheumatoid factor)

- 3. RPR-VDRL
- 4. All of the above
- 5. None of the above

15 **Initial TX?**

- 1. Scopolamine 0.25% BID & Inflammase forte 1% q 1H
- 2. Voltaren QID and phenylephrine 2.5% TID
- 3. Ciprofloxacin QID and Voltaren TID
- 4. Homatropine 5% TID-NO STEROIDS
- 5. Viroptic 5X/day and acyclovir 800mg 5X/day PO

16 **The cause of the uveitis is:**

- 1. Pars planitis
- 2. Cytomegaloinclusion virus (CMV)
- 3. EKC adenovirus
- 4. Detached retina
- 5. Toxoplasmosis

17 **Watch Out for Masquerade Syndromes**

In Uveitis management know your adjectives

- Anterior vs Posterior
- Recurrent vs initial
- Granulomatous vs Non-granulomatous
- Idiopathic vs secondary
- Acute vs Chronic
- Acute anterior non-recurrent secondary non-granulomatous uveitis (WOW)

18 **Case : These Glasses “SUCK”**

- 48 YO/M CC: 3 month old glasses are the pits
- Can't see side-view mirrors when driving-has to turn head-getting progressively worse

19 **Case**

- Glasses are PAL's-first pair
- Acuity 20/20
- RX is correct
- Bases curves /PD,s/Segment Heights are perfect

20 **Additional Tests**

- DFE: Cupping 0.3/0.3 OU Three months ago
- Today: 0.5/0.7 OD and 0.7/0.7 OS
- Low tension glaucoma??
- Tests?

- 21 **My Husband Needs and emergency Diabetes check**
- Woman calls and states that she is a nurse practitioner and states that her husband has an enlarged, non-reactive, left pupil and experiencing vertical diplopia.
 - She demands that we order a fasting glucose and a hemoglobin A1-C
 - She agrees to bring in husband for evaluation
- 22 **Clinical data**
- 80 year-old retired radiologist
 - BVA: 20/40 OD 20/50 OS
 - Meds: None
 - Med Hx: Neg
 - Pupils: 4mm, (+) 3RX OD/ 7mm, min RX OS X 2 days > light
 - Monocular diplopia OU
- 23 **Tests?**
- 1. FBS /A1-C / ESR ASAP
 - 2. MRI/MRA
 - 3. Visual field
 - 4. Weak pilocarpine test
 - 5. None of the above
 - 6. All of the above
- 24 **Bruce Fifteen: Are you the same person I saw 5 years ago?**
- 46 y/o hf General exam-No problems
 - Last visit 5 years ago
 - BVA: 20/20 OU
 - Meds: None
 - PERRL (+) 2 APD OS
 - SLE:NML DFE: C/D: 8/8 OD 9/9OS
- 25 **Continued**
- IOP's 14 OU
 - Med HX: "I get tired easily, particularly when I try to exercise"
 - No visual disturbances
- 26 **QUESTION:**
- Differential Diagnosis?**
- 1. COAG
 - 2. Optic neuritis
 - 3. LTN glaucoma
 - 4. ION
 - 5. MS
- 27 **QUESTION:**

Additional Tests?

1. Order an immediate MRI
2. Serial Visual fields
3. Serial IOP's
4. Need more information
5. Both #3 and #4 are correct

28 **Test Results**

- Serial IOPs never over 16mm Hg
- No history of blood loss or low BP

29 **QUESTION:**

Diagnosis?

1. Idiopathic LTN GLC
2. COAG
3. Optic neuritis
4. MS

30 **QUESTION:**

Management?

1. There is no TX for MS induced optic atrophy.
2. Medically treat as LTN glaucoma patient
3. Needs immediate filtration surgery
4. Needs Tx with high dose steroids-injectable

31 **Diagnosis**

32 **Diagnosis**

33 **Case : But I'm TOO Young To Die**

- 48yowf referred by internist
- CC: Went blind in OD yesterday
- Had stroke 2 weeks ago-Right-sided paralysis
- Insulin dependent diabetic X 30yrs
- Systemic hypertension

34 **Case**

- Hyperlipidemia/Obese
- Meds: Insulin/Prozac/Dyazide/ Lisinopril/Coumadin
- BVA: 20/200 OD 20/20 OS
- Pupils: +1RX/+3RX,RD +3APD OD

35 **Case**

- **SLE: Normal**
- **IOP's 16/15**
- **DFE: Swollen pale disc OD**
- **Visual Fields: Altitudinal Defect OD**

36 **Differential DX**

- **1. BRVO**
- **2. BRAO**
- **3. ION**
- **4. CVA**

37 **Additional Tests?**

- **1. Glyco Hemoglobin**
- **2. CBC**
- **3. ESR**
- **4. CRP**
- **5. Both 1 and 2**
- **6. 2, 3 and 4 are correct**

38 **Test Results**

- **Glyco Hemoglobin: 12**
- **CBC: Normal**
- **Sed rate: 82**
- **BP: 175/95**
- **PT: Within therapeutic range**
- **Carotid Doppler: Normal**

39 **Management?**

- **1. Topical steroids**
- **2. Lower BP and glucose ASAP**
- **3. Oral steroids**
- **4. No treatment -the damage is already done**

40

The “MISSED” Glaucoma Case

- **72 Y/O hispanic male with unilateral glc OS-Pseudoexfoliative**
- **Pre-tx C/D .5/.5 OD .6/.7 OS**
- **VF Normal OD /Nasal step OS**
- **Pre-TX IOP's OD 14 OS 28**

41 **CASE**

- **TX with Ocupress 1% q AM and Xalatan HS OS**
- **IOP's: 12/ 14**
- **Returns for 4 month follow-up**

42

- **C/D: .8/.9 OD**
- **.6/.7 OS**
- **IOP's 14/OU**
- **VF's: OS Unchanged**
- **OD : Marked VF Loss**
- **GLAUCOMA????**
- **Tests?**

43 **Differential DX**

- **LTN glaucoma**
- **ION**
- **COAG**
- **Ocular ischemic syndrome**
- **Optic nerve tumor**

44 **QUESTION:
TESTS?**

1. **Immediate MRI**
2. **ESR**
3. **Carotid doppler**
4. **Repeat IOP's**

45 **Test Results**

- **Serial IOP's never over 14**
- **Carotid doppler normal**
- **ESR = 2**

46 **QUESTION:
NOW WHAT?**

1. **Gonioscopy**
2. **Fasting glucose**
3. **MRI**
4. **Thyroid evaluation**
5. **Serial visual fields**

47 **The “Simple” glaucoma case**

12/07/2001

- 80 year-old female presents for general exam-new patient
- Last exam 1 year ago- told she had “cataracts”
- Had “dizzy spell” in Oct-Since then, decreased VA OS

48 **Medical HX**

12/07/2001

- Hypertension
- Meds: Premarin/cardiazem
- Allergies: Penicillin, sulfa, novacaine, ASA
- (-) family HX of significant eye disease
- (+) family HX of systemic hypertension

49 **Clinical findings**

12/07/2001

- VA: 20/30 OD No improvement
20/60 OS- BVA = 20/30-2 OS
- IOP: 21mm OU
- SLE: Unremarkable
- Pupils: equal, rd, reactive-(-)APD
- Lenses: (+) 2 NS OU
- C/D: 0.5/0.5 OD
0.6/0.6 (+) 2 pallor OS

50 **Vision improves with refraction-Anything else?**

12/07/2001

1. No-Pay your bill and leave-please
2. ESR/CRP
3. Visual field
4. MRI
5. MRA

51 **Your game plan**

12/07/2001

1. Monitor IOP and discs for changes-no TX now, recheck in 3 months
2. TX with glc med and recheck in 4-6 weeks-Monitor IOP, discs and VF
3. Order ESR/CRP
4. Order MRI
5. Refer to Ophthalmologist

52 **Test results**

12/8/2001

- ESR/CRP: 2/0.5
- MRI/MRA results

53 **Results:**

12/25/2001-Christmas Day

- Patient talking to daughter on phone
- Collapses and dies of massive cerebral hemorrhage from ruptured cerebral aneurism

54 **Lessons**

- When in doubt-get a visual field
- Lead, follow or get out of the way
- Do the work-up
- Have someone else do the work-up
- Don't dawdle or temporize serious clinical findings

55 **The NOT so Simple Conjunctivitis Case**

- 55 y/o female recently in California to visit son
- Both developed red eyes
- Son told mom he has genital herpes
- and chlamydia
- Mother seen by local ophthalmologist

56 **Case cont'd**

- Mom has Hx of trachoma as child and TB in remission. Worked in a TB ward-Was treated years ago
- Mom wears mono-vision CL on OS only. Disposable-wears X wears X 2 weeks. Last worn 3 weeks ago

57 **Case Cont'd**

- Eye had watery discharge with sticking shut in AM, itchy.
- TX with "steroid X 1 day and got worse
- Then oral doxycycline 100mg BID
- Sulfacetamide QID X 2 weeks

58 **Case Cont'd**

- Eye now very painful and vision very bad
- Calif. Dr said the cornea was all "torn up"
- SLE: Diffuse SPK, diffuse sub-epithelial infiltrates, mixed conjunctivitis, (-) PA nodes

- 59 **Case Cont'd**
- VA 20/20 OD and 20/60 OS
 - (-) Hx H. simplex
 - **Differential DX**
 - **Management**

- 60 **QUESTION:**
- Differential DX**
- **1. Viral conjunctivitis**
 - **2. Chlamydia**
 - **3. CL over-wear**
 - **4. TB granulomatous uveitis**
 - **5. Trachoma**

- 61 **QUESTION:**
- Management?**
- **1. Refill and continue the oral tetracycline**
 - **2. Viroptic 5X/day and oral acyclovir 400mg TID PO**
 - **3. Topical steroids**
 - **4. Ciloxan QID**
 - **5. No TX-send for TB testing (chest X-ray)**

- 62 **Let's narrow down the differential DX list**
- **Viral conjunctivitis**
 - **Chlamydia**
 - **CL over-wear**
 - **TB granulomatous uveitis**
 - **Trachoma**

- 63 **The STYE that Wasn't**
- **32 yowm swollen upper lid**
 - **Very painful**
 - **Warm to touch**
 - **+ HX frequent "Styes"**

- 64 **QUESTION:**
- This lesion is best classified as a (an):**
- 1. Sty**
 - 2. Dacryocystitis**
 - 3. Internal hordeola**
 - 4. External Hordeola**
 - 5. None of the above**

- 65 **Patient work-up**
- NO labs done
 - Presumed DX Internal hordeolum of lid
 - TX with Oral antibiotic/heat
 - Patient calls 24 hours later-much worse
- 66 **QUESTION:**
- Swollen lids everywhere
- The differential dx should include :
1. Dacryocystitis
 2. Orbital cellulitis
 3. Sinusitis
 4. EKC
- 67 **QUESTION:**
- NOW-How about some tests?**
1. CBC
 2. Blood culture
 3. CT/MRI
 4. Temperature
 5. Binocular vision testing
 6. None of the above are necessary
- 68 **HOLD THE LABS FOR A SECOND**
- Temperature (Oral versus rectal)
 - Binocular vision testing (Versions??)
- 69 **DON'T Forget Your Differential DX-The Bad Signs**
- Decreased Acuity
 - Proptosis
 - Diplopia-Extraocular paralysis
 - Febrile
 - Elevated WBC's
 - Get blood cultures
 - Consider orbital CT scan
- 70 **15 Y/O female presents with mom-C/O red eye-Simple Right??**
- Has seen one nurse practitioner
 - Has seen Two Optometrists
 - Tx with Ciloxan
 - Tx with Tobradex
 - Mom wonders why nobody can cure her daughter

71 **Tests**

- **Cultures**
- **Diff-Quick**
- **Gram Stain**

72 **Culturette Etiquette**

- **Choose proper culturette: Bacterial vs Viral**
- **Break solution bulb BEFORE swabbing**
- **Avoid pus-Dead cells only**
- **Plate ASAP**

73 **Plating Etiquette**

- **Blood agar: Detects hemolysis: a sign of greater pathogenicity**
- **Chocolate agar: Heated blood agar: Provides nutrients for Hemophilus growth**
- **Sabouraud's: Fungal growth media**
- **Overlaid E-Coli plate: Culture media for acanthamoeba**

74 **The Corneal Abrasion That Wasn't**

- **37 y/o male with eye pain-Hit in eye with hockey stick 24 hours ago**
- **Wears GP CL's**
- **GP CL OD cracked**
- **VA 20/30 OD**
- **20/25 OS**

75 **DX: CORNEAL ABRASION**

- **Pressure patched**
- **Erythromycin Ointment X 1 day**
- **Returns 24 hours, "eye is worse"**
- **"Dendritic keratitis"**
- **States he has "sexual herpes"**
- **VA 20/40 OD**
- **TX with viroptic 5X/day**

76 **48 hours-"It's Worse"**

- **VA now 20/60**
- **Infiltrates**
- **Referred to corneal specialist**
- **DX "toxic keratitis"**
- **No cultures**
- **Topical steroids**

77 **Two days later-I FEEL BETTER, BUT I'M BLURRY-20/200**

- **Seen by OD that works with corneal specialist**
- **Looks really bad**

- Referred to University specialist
- DC's steroid for culture
- Eye blows up
- Refers to the BIG Kahuna University specialist
- Eyes is cultured
- Guess what they found?

78 **THE CULTURES**

- **Bacterial: Negative**
- **Viral: Negative**
- **Fungal: Negative**

79 **QUESTIONS:
THE DX?**

1. Sterile ulcer
2. Acanthamoeba
3. Bacterial, but poor culture technique
4. Inflammatory ulcer

80 **THE LAWSUIT**

- Patient sues OD and original ophthalmologist
- Claims failure to DX
- Expert witness states DX delayed by "incompetence"
- Claims that it was a "late" DX

81 **QUESTION:**

A timely DX of Acanthamoeba is made within:

1. 1 day
2. 1 week
3. 1 month
4. 3 months
5. 1 year

82 **The 1,2,3,4 Rule**

- Less than +1 AC reaction
- Smaller than 2mm diameter
- At least 3mm from optic axis
- Less than 1/4 depth of cornea