

Ten Tests that Save Your Patient's Life/Sight

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The Tests

- Bleeding tests
- Imaging tests
- VF's
- Pupils (Pharm)
- BP
- A1C
- Immune panels
- Corneal cultures
- Gram stain
- Spinal tap

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

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

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

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

Current Meds

- 1 325mg ASA/D
- Timoptic 0.25% BID OU
- Trusopt TID OU
- Zantac
- Glucosamine
- Vitamin E 400U BID
- Vitamin C
- Multivitamin

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

Cause of hemorrhage?

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

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"

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

Differential Diagnosis?

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

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

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

The cause of the uveitis is:

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

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)

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

Case

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

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?

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

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

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

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

Continued

- IOP's 14 OU
- Med HX: "I get tired easily, particularly when I try to exercise"
- No visual disturbances

QUESTION: Differential Diagnosis?

- 1. COAG
- 2. Optic neuritis
- 3. LTN glaucoma
- 4. ION
- 5. MS

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

Test Results

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

QUESTION: Diagnosis?

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

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

Diagnosis

Poser criteria – clinically based

- 2 separate CNS lesions
- Symptoms occurred in ≥ 2 separate episodes
- Symptoms must involve white matter (tracts, pathways, axonal projections)
- Neuro exam shows objective abnormalities
- Patient between ages 10-50, preferably 20-40
- No other disease-causing symptoms

CP1085143-6

Diagnosis

Laboratory support

- Spinal fluid protein and WBC elevated
- Increase in IgG level and synthesis rate
- Oligoclonal banding under electrophoresis

McDonald criteria – MRI based

- 83% accuracy for MS
- Doubled rate of diagnosis within 1 year of presentation with a clinically isolated attack

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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

Case

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

Case

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

Differential DX

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

Additional Tests?

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

Test Results

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

Management?

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

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

CASE

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

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

Differential DX

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

QUESTION: TESTS?

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

Test Results

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

QUESTION: NOW WHAT?

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

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

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

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

**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**

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**

Test results
12/8/2001

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

Results:
12/25/2001-Christmas Day

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

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**

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

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

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

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

Case Cont'd

- VA 20/20 OD and 20/60 OS
- (-) Hx H. simplex
- Differential DX
- Management

QUESTION: Differential DX

- 1. Viral conjunctivitis
- 2. Chlamydia
- 3. CL over-wear
- 4. TB granulomatous uveitis
- 5. Trachoma

**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)

**Let's narrow down the
differential DX list**

- Viral conjunctivitis
- Chlamydia
- CL over-wear
- TB granulomatous uveitis
- Trachoma

The STYE that Wasn't

- 32 yowm swollen upper lid
- Very painful
- Warm to touch
- + HX frequent "Styes"

QUESTION:

This lesion is best classified as a (an):

1. Stye
2. Dacryocystitis
3. Internal hordeola
4. External Hordeola
5. None of the above

Patient work-up

- NO labs done
- Presumed DX Internal hordeolum of lid
- TX with Oral antibiotic/heat
- Patient calls 24 hours later-much worse

QUESTION:

Swollen lids everywhere
The differential dx should include :

1. Dacryocystitis
2. Orbital cellulitis
3. Sinusitis
4. EKC

**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

**HOLD THE LABS FOR A
SECOND**

- Temperature (Oral versus rectal)
- Binocular vision testing (Versions??)

**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

**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

Tests

- Cultures
- Diff-Quick
- Gram Stain

Culturette Etiquette

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

- 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

Plating Etiquette

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

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

48 hours-"It's Worse"

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

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?

THE CULTURES

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

QUESTIONS: THE DX?

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

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

QUESTION: A timely DX of Acanthamoeba is made within:

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

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