Evaluation Of Common Symptoms

1) A 26 y.o. woman presents with a 3 week history of cough. The cough began at the time of an URI with nasal congestion and sore throat. The nasal congestion and throat pain resolved two weeks ago but a productive cough has persisted. Physical exam is unremarkable.

At this point what would you recommend?

A. Azithromycin X 5 days
B. Doxycycline X7 days
C. Amoxicillin X 7 days
D. Chest X ray
E. Omeprazole 20 mg po qd
F. None of the above

Acute Bronchitis

- Viral (most common)
- Chlamydia pneumonia/mycoplasma (rare)
- Pertussis

Acute Bronchitis

- ½ of patients report purulent sputum
- Purulent sputum represents sloughed tracheobronchial epithelium and inflammatory cells
- Normal vital signs and absence of rales and egophony strongly suggest Dx of acute bronchitis in non elderly patients with acute cough.

- Ann Intern Med 2000;133:981-991
- JAMA 1997;278:1440-1445

Acute Bronchitis Treatment

- Antibiotics not helpful for symptoms
- B agonists may be effective if wheezing is present
- B agonists overall do not decrease cough at 7 days (meta analysis)
- Inhaled fluticasone may be beneficial in select patients
- Cough suppressants including codeine have little evidence of benefit

So if Nothing Works, How about Honey?

- **Objectives** To compare the a single nocturnal dose of buckwheat honey or honey-flavored dextromethorphan (DM) with no treatment on nocturnal cough associated with childhood URIs.
- **Participants** 105 children with URIs, nocturnal symptoms, and illness duration of 7 days or less.
- **Intervention** A single dose of buckwheat honey, honey-flavored DM, or no treatment 30 minutes prior to bedtime.
- **Results** In paired comparisons, honey was significantly superior to no treatment for cough frequency and the combined score, but DM was not better than no treatment for any outcome. Comparison of honey with DM revealed no significant differences.
- Arch Pediatr Adolesc Med. 2007 Dec;161(12):1140-6.

2) A 37 y.o. woman presents with 6 month history of cough. The cough is nonproductive. He has tried numerous OTC cough suppressants without benefit. He is a non-smoker and has no significant past medical history. He has a normal physical exam . Chest Xray as shown. What is the next step in his management?

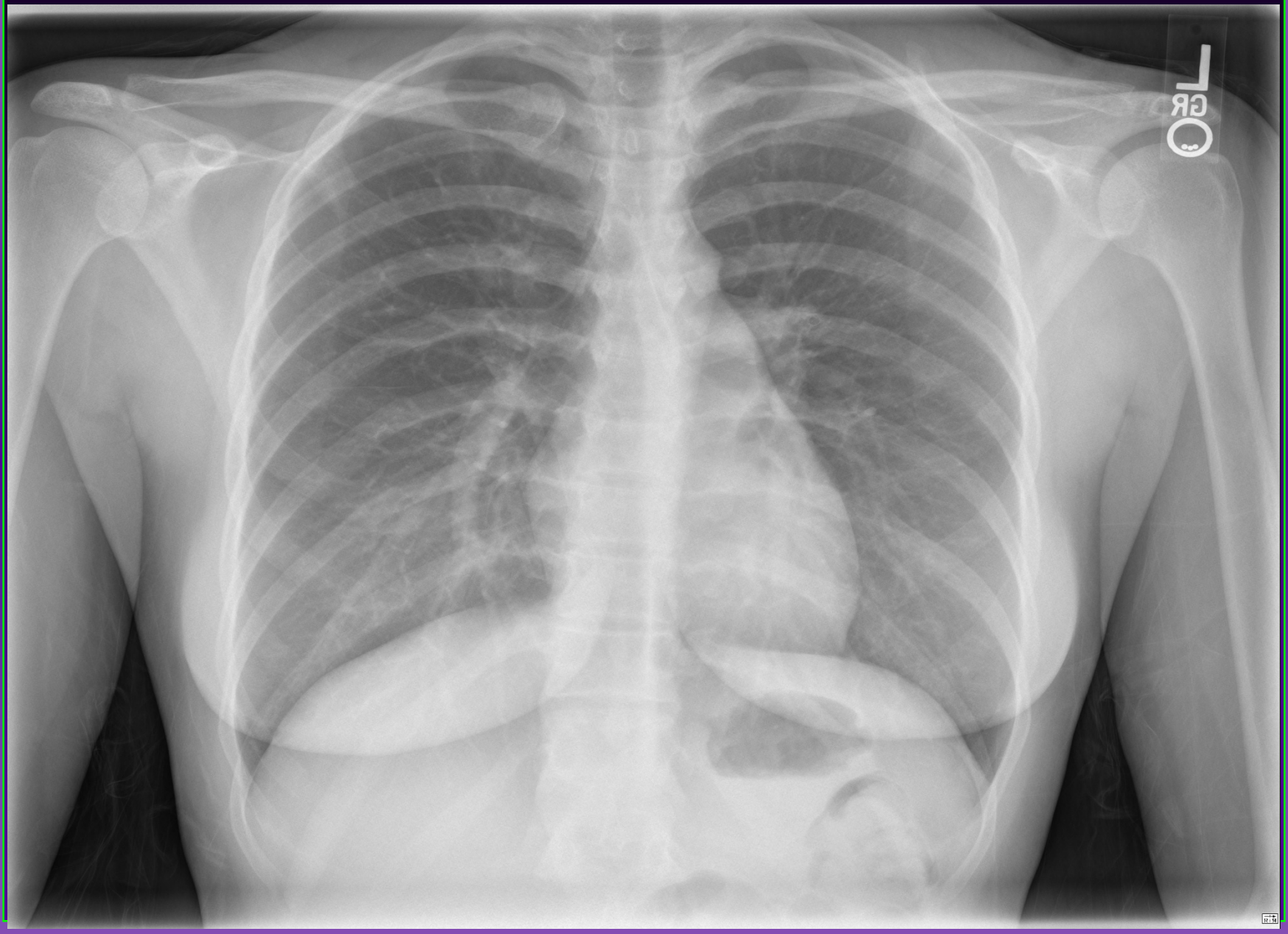
A. Trial of antihistamine/decongestant

B. Azithromycin

C. Trial of omeprazole

D. Chest CT scan

E. Bronchoscopy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Narrowing the Cause of Chronic Cough

- Not on ACEI
- Non smoker
- Unrevealing chest Xray

- With this 3 criteria, 99.4% of patients had cough due to Upper airway cough syndrome, asthma or GERD
- Arch Intern Med 1996; 156(9): 997-1003

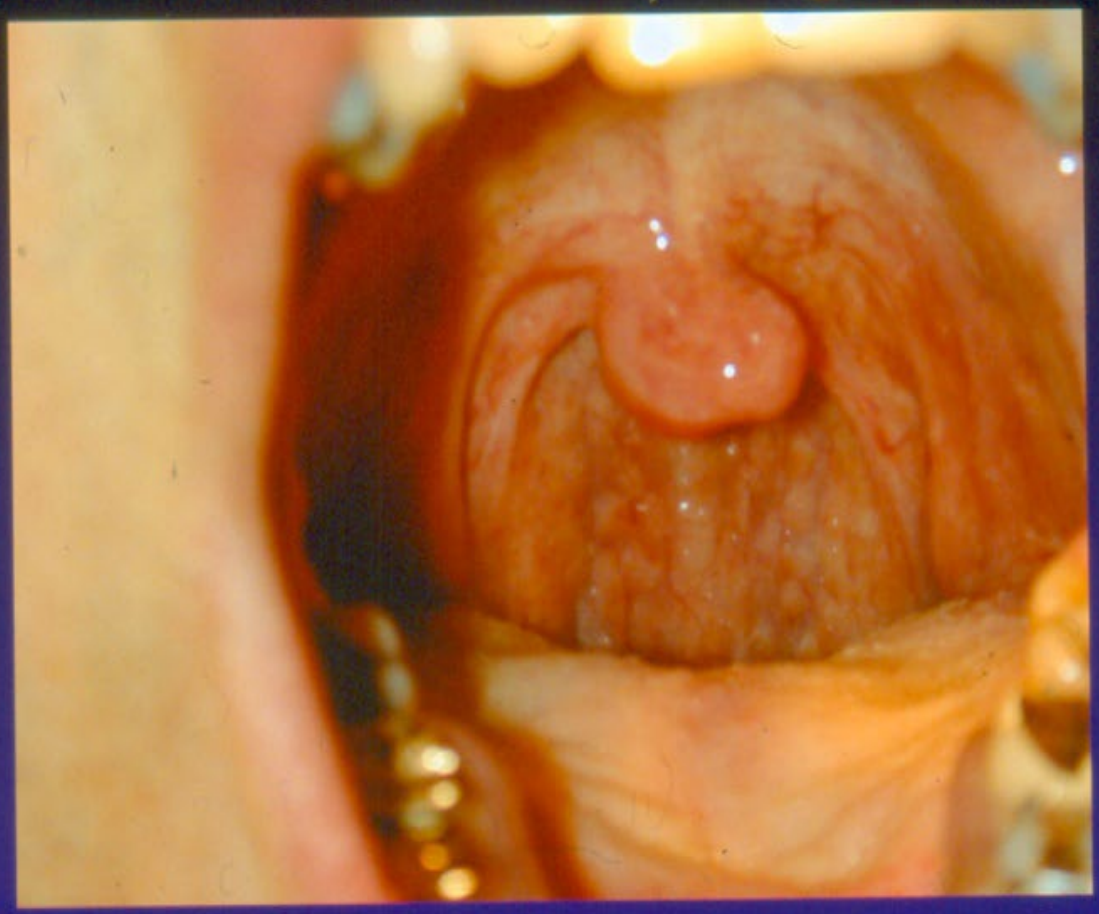
Chronic Cough Etiology

	Smyrnios (1998)	Pratter (1993)	Irwin (1990)
Postnasal drip(UACS)	48%	87%	41%
Asthma	17%	29%	24%
GERD	20%	11%	21%

Chronic Cough
Upper Airway Cough Syndrome

- Throat clearing
- Cobblestoning
- Coating of posterior 1/3 of tongue

Cobblestoning



Chronic Cough
Upper Airway Cough Syndrome

Treatment

- Start with first generation (sedating) antihistamine/decongestant combination
- Add nasal steroids if cough not resolved

Stepwise Approach to Chronic Cough

- Treat first any clear cause
- If no clear cause, treat upper airway cough syndrome 1st with 1st generation antihistamine/ followed by nasal steroids
- If no response treat for asthma with albuterol and inhaled steroid (including trial of high dose inhaled steroid if needed)
- If no response treat for occult reflux disease with PPI

3) 50 year old male with 6 months of daily cough. CXR normal. Normal PFTs and methacholine challenge. No response to treatment with diphenhydramine, albuterol, prednisone, steroid nasal spray or omeprazole.

Which treatment option might you consider next?

A. Famotidine

B. Gabapentin

C. Daily sinus irrigation with Neti Pot

D. Ipratropium nasal spray

E. Colchicine

Gabapentin for chronic cough

- RCT, double-blind, placebo controlled
  - 60 Primary care pts with more than 8 wks of cough
  - No hx COPD, asthma, tobacco, ACE-I, recent URI
  - No response to tx for asthma, GERD, PND
  - Gabapentin 300 mg qd, increase by 300 mg daily until cough suppressed or 1800 mg/day. Most patients reached full dose by day 6.
- Statistically significant reduction:
  - Severity of cough, cough sensitivity to capsaicin, health related and cough specific quality of life.
- NNT 3-58
- Improvements not sustained after stopping tx

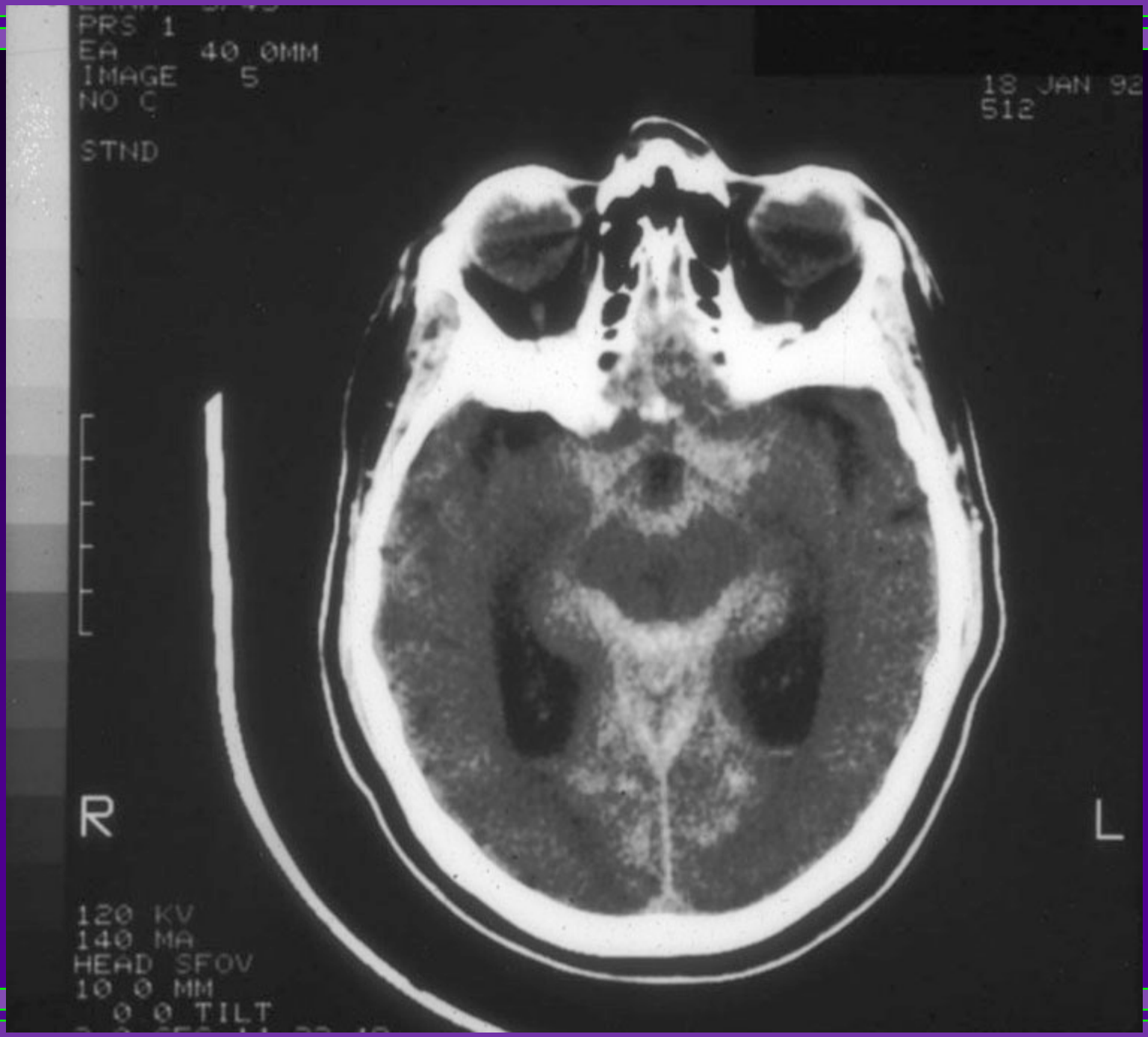
Lancet 2012. PMID: 22951084

Headache

- 4) A 46 y.o. man develops a severe headache this morning while working at his car dealership. He also has nausea and has had one episode of emesis. He has shoulder and neck stiffness that developed today. He denies any history or migraine headaches or any similar headaches.

Which diagnostic test should be ordered?

- A) MRI scan
- B) CT scan without contrast
- C) CT scan with contrast
- D) Lumbar puncture
- E) None of the above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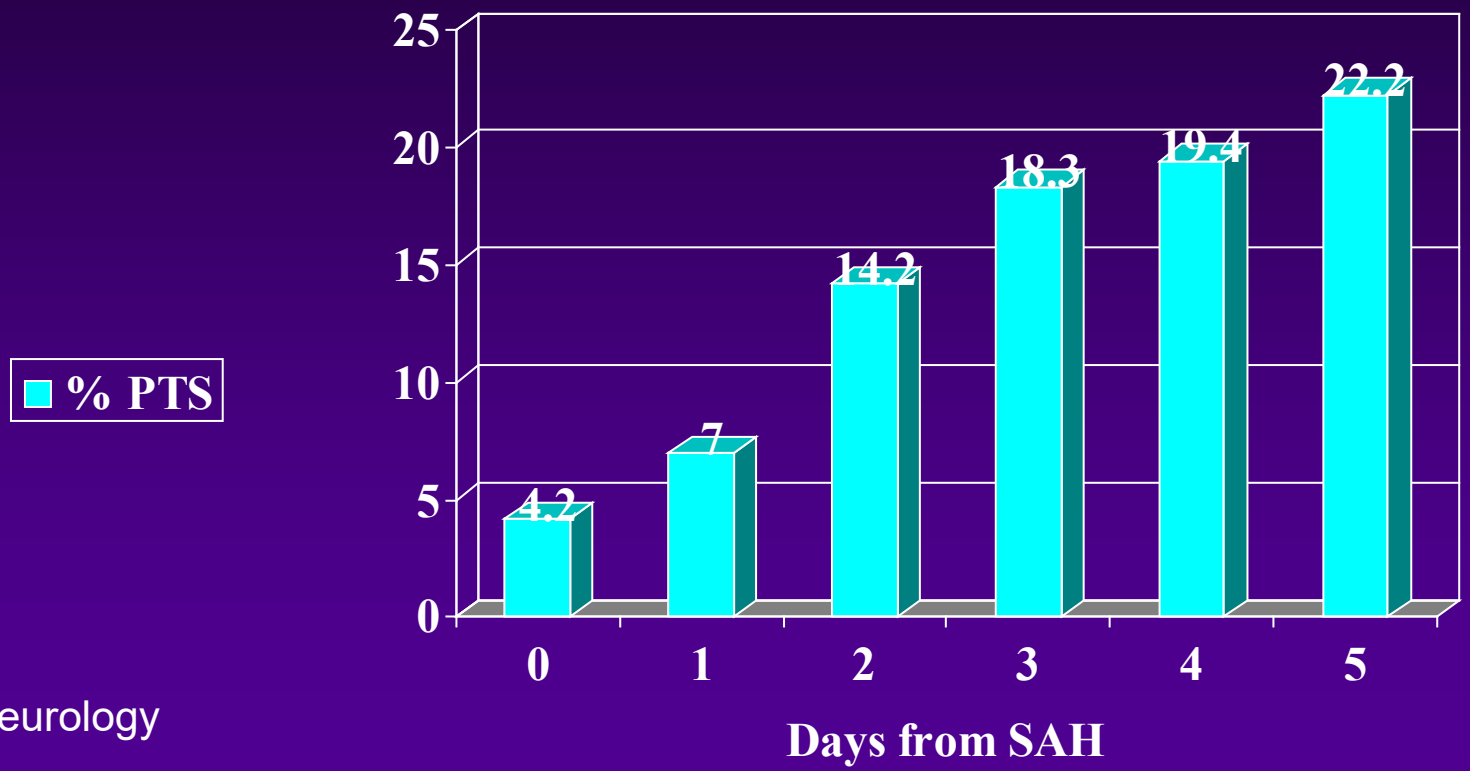


Neurology

33:981, 1983

Subarachnoid Hemorrhage

- Sudden onset of “worst headache of my life”
- Average age 46
- Neck pain common
- Nausea, vomiting in about 20%
- “warning bleeds” frequently missed

- 5) A 22 y.o woman presents for evaluation of headaches. She has had headaches for the past 6 months, occurring 4-5 times a month. The headaches are of great intensity, involving the right side of her head with the maximum intensity of pain occurring behind her right eye. Symptoms worsen with exertion. Headaches last 3-6 hours, are sometimes associated with nausea and on 2 occasions have been preceded by a scotoma in the right eye. Neurologic exam is unremarkable.

What would you recommend?

- A) CT scan without contrast
- B) CT scan with contrast
- C) MRI
- D) MRA
- E) No imaging

Should Patients with Migraine HA have Neuroimaging?

# of scans	897
Positive scans	4 (.4%)

- In adult patients with recurrent headaches defined as migraine – no recent change in pattern, seizures or focal neurologic signs or symptoms, the routine use of neuroimaging is not warranted.[1]
- [1]Report of the Quality Standards Subcommittee American Academy of Neurology.

- 6) A 29 yo woman is evaluated for headaches. She reports having headaches about twice a month. She feels pain behind her right eye and frequently pain on her forehead. Her headaches often get better with 550 mg of Naprosyn. She has never had visual problems or nausea with her headaches. The headaches are worse with exercise. About once a month the headache is bad enough to force her to leave work early.

What is the Most Likely Type of Headache?

A) Migraine

B) Cluster

C) Muscle tension

D) Nitrate headache

Clinical Features of Migraine Headaches

- Family history common
- Pulsating quality
- Worse with activity
- Mild to Severe in intensity
- Can be disabling
- History of motion sickness common
- Nausea, photophobia, phonophobia may occur

7) A 29 yo woman presents for evaluation. She reports that she has frequent headaches over the past 12 months that include pressure pain on her forehead, under her eyes and over her cheeks. She usually has nasal congestion as well. She has not had any fevers or purulent nasal discharge. What is the most likely problem?

A) Cluster headaches
B) Migraine headaches
C) Sinus headaches
D) Tension headaches

“Sinus” Headaches Are Usually Migraine Headaches

- 2991 patients screened who reported at least 6 headaches during the previous 6 months self diagnosed or physician diagnosed as sinus headaches
- 88% of these patients met IHS criteria for migraine HA (80%) or migrainous criteria (8%).Most common sx patients reported were sinus pressure (84%), sinus pain (82%) and nasal congestion (63%)
- Arch Intern Med 2004;164 (16): 1769-1772

Sinus, Allergy and Migraine Study

- 100 patients recruited who believed they had sinus headaches. All received a detail history and PE and given headache diagnosis based on HIS criteria
- Final diagnosis were as follows: Migraine with or without aura 52%, probable migraine 23%, chronic migraine with medication overuse HA 11%, nonclassifiable HA 9%. 76% of migraine patients reported pain in the distribution of the 2nd division of the trigeminal nerve and 62% experienced bilateral forehead and maxillary pain with their HA's.
- Headache 2007;47:213-224

Treatment of Sinus Headache as Migraine: The Diagnostic Utility of Triptans

- To determine the response rate to triptans in alleviating “sinus headache” in patients with endoscopy and CT negative sinus exams
- Prospective study of patients with physician or patient self diagnosed sinus headaches with negative workup all treated with triptans
- 54 patients enrolled, 38 completed follow up. 31 patients (82%) had significant reduction in headache pain with triptan use, 35 (92%) had a response to migraine directed therapy.
- Laryngoscope 2008;Dec; 2235-2239.

Tip Offs That a Headache is Not of Sinus Orgin

- Absence of fever
- Absence of purulent drainage
- Chronicity

Fatigue

8) A 34 y.o. female bank executive comes to you for evaluation of fatigue. She reports she has had severe fatigue for the past 8 months. It began suddenly following a flu like illness last winter. This illness was characterized by 10 days of high fever, myalgias and tender adenopathy. Since then she has had to cut back to 50% time at work, goes to bed at 7pm every night and wakes up unrested. Exercise makes her fatigue much worse. Outside tests include a normal CBC, ESR, TSH, SMA 20, Monospot test, and negative HIV test. Her physical exam is normal.

What would be the next step in evaluation?

a) EBV serologies
b) Mammogram
c) Abdominal CT scan
d) Blood cultures
e) None of the above

9) A 31 yo construction worker reports that she feels tired all the time. She has trouble getting through the workday and worries that she may have a serious illness. Her fatigue has worsened since she was recently promoted to foreman, a job that requires longer work hours and a higher stress level. Which of the following symptoms are concerning for a physical rather than a psychological cause of her fatigue?

A) Symptoms relieved by sleep

B) Symptoms increased during periods of stress

C) Symptoms better later in the day

D) Symptoms for the last 10 months

E) Symptoms that began at the time her father died

Key Features of Patient History in Workup of Fatigue

	Psychological	Physical
Onset	Often follows problem or conflict	Related to onset of physical ailments
Duration	Chronic	Of recent onset
Progression	Fluctuates	Increases as disease advances
Effect of sleep	Unaffected by sleep	Relieved by sleep
Diurnal	Present in morning may improve during the day	Increases as day progresses

Fatigue

Duration of fatigue	Psychological (# of pts)	Physical (# of pts)
< 1 month	16	39
1 - 4 months	27	21
> 4 months	29	9

Morrison J Fam Pract 1980; 10:795-801

Does the patient have fatigue or sleepiness?

Signs/symptoms of sleep apnea

- Snoring
- Witnessed apnea during sleep
- Daytime napping
- AM headaches
- Falling asleep at inappropriate times (driving etc.)
- Hypertension, atrial fibrillation
- Weight gain
- Neck size >17 in men, >16 in women

Criteria for CFS/SEID

- 1) Reduction in ability of pre-illness lvels of occupational, educational. Social or personal activities for more than 6 months accompanied by fatigue of new or definite onset
- 2) Post- exertional malaise
- 3) Unrefreshing sleep
- AND at least one of
- 1) Cognitive impairment
- 2) Orthostatic intolerance

Chronic Fatigue Workup

- Complete blood cell count
- Renal function/electrolytes/glucose/transaminase
- Sedimentation rate
- TSH
- HIV
- CK- if muscle pain or weakness

Chronic Fatigue
Do Not Order

- EBV serologies
- Other viral serologies
- ECG - Unless patient has signs/sx or significant risk for cardiac disease
- Chest x-ray - unless patient is a smoker

Acute Hearing Loss

10) A 57 yo man calls on to report sudden hearing loss in his left ear. He comes into clinic and has a normal exam except for minimal hearing present in his left ear. His ear canals are clear. PMH: HTN, GERD, BPH. Meds: Omeprazole, Terazosin, Hydrochlorathiazide, and Spironolactone. What do you recommend?

A) Stop hydrochlorathiazide
B) Stop spironolactone
C) Stop terazocin
D) Acyclovir
E) Prednisone

Treatment of Sudden Sensorineural Hearing Loss

- 67 patients randomized to corticosteroids or placebo within 10 days of onset of hearing loss
- More patients treated with corticosteroids recovered hearing (62 vs 32 %)
- Those with profound hearing loss on entry in the study did not benefit (18 vs 17% recovered hearing).
- Greatest benefit in group with moderate hearing loss (78% vs 38%, CI 1.19-2.55)
- Arch Otolaryngol 1980 Dec;106(12):772-6.

Steroids and Magnesium???

- Small study of 28 patients with idiopathic sudden sensorineural hearing loss randomized to steroids + magnesium (167 mg) or steroids + placebo
- Compared with placebo, magnesium treated patients had significantly improved hearing over all frequencies tested.

- Ann Otol Rhinol Laryngol. 2004 Aug;113(8):672-5

What Should You Do for Acute Hearing Loss?

- Trial of 10 days therapy with prednisone 60-80 mg a day.
- Magnesium?
- Those who don’t improve are candidates for intratympanic steroids

Leg Pain

11) A 78 yo man comes in for evaluation of leg pain. He reports pain that occurs every day. It usually occurs when he is sitting down, and also occurs at night when he is in bed. He describes it as a a deep pain that makes it hard for him to get in a comfortable position. He doesn't feel the pain when he walks, it actually seems to improve if he walks. What is the most likely diagnosis?

A) Vitamin D deficiency

B) Peripheral vascular disease

C) Spinal stenosis

D) RLS

E) Varicose veins

Restless Leg Syndrome

- Occurs more frequently with advancing age, up to 19% in those > 80
- Symptoms at rest, especially in bed, usually below the knees
- Symptoms relieved by movement
- Check for Fe deficiency in all patients
- Treatment: stretching, dopaminergic agents, gabapentin, pregabalin, feso4 if Fe deficient (treat if ferritin < 50)

Medications as a Trigger for RLS

- Metoclopramide
- Neuroleptics
- SSRI’s, Mirtazapine, TCA’s
- Antihistamines

Dizziness

Types of dizziness

- Vertigo
- Pre syncope
- Dysequilibrium
- “Ill-defined lightheadedness”

Multiple Sensory Deficits (Presents as dysequilibrium)

- Combination of poor vision, peripheral neuropathy, orthopedic deformities and/or poor hearing lead to sensation of dizziness
- Describe vague unsteadiness during walking (none at rest)

Ill defined lightheadedness

- Panic disorder
- Anxiety disorder with hyperventilation

- 13) A 32 yo woman calls with symptoms of dizziness. She reports the feeling of spinning whenever she moves. Her only comfortable position is lying down. She has also had nausea and has vomited once. The symptoms have been present for the past 12 hours. PMH: unremarkable
- Meds: None
- PE: T 37.6 P 100 BP 100/60

  Ears-TM clear bilaterally

  Neuro exam- unremarkable

What Is The Most Appropriate Treatment?

A) Reassurance
B) Meclizine
C) Diazepam
D) Corticosteroids
E) Acyclovir

Treatment Of Vestibular Neuritis

- Prospective, randomized, double blind trial. Patients received placebo, methylprednisolone, valacyclovir or Valacyclovir + methylprednisolone treatment received a mean 1.75 days after onset of symptoms
- Vestibular function measured 3 days after onset of symptoms and at 12 months
- Mean improvements in vestibular function 39.6% with placebo, 62.4% in methylpred group, 36% in valacyclovir group, and 59.2% in methylpred + valacyclovir group
- NEJM 2004; 351: 354

What Dose of Steroids?

- Methylprednisolone 100 mg daily on days 1 to 3
- 80 mg on days 4 through 6
- 60 mg on days 7 through 9
- 40 mg on days 10 through 12
- 20 mg on days 13 through 15
- 10 mg on days 16 through 18
- No methylprednisolone on days 19 and 21
- 10 mg on days 20 and 22

- 14) A 56 y.o. male presents for routine clinic visit with complaints of dizziness. He states episodes are particularly common at night when he rolls over in bed. They last for 15-30 seconds and then resolve. The sensation is that of the room spinning around him.

Appropriate Treatment?

- A) Epley maneuver
- B) Meclizine
- C) Diazepam
- D) Hydrochlorathiazide
- E) Diphenhydramine

Natural History and Treatment of BPV

- 190 patients randomized to treatments or no treatment for BPV
- Divided BPV into posterior canal(P-BPV 127) vs horizontal canal involvement H-BPV 63)
- 67 patients with P-BPV received Epley, 29 with H-BPV received Lempert. 60 with P-BPV and 34 with H-BPV no treatment (natural history arm)
- At 1 week 51.7 % untreated P-BPV and 22.7% of treated P-BPV had Symptoms . At one month- 20 vs 9.7% (P< .01)
- At 1 week 30.9% untreated H-BPV and 21.4 % of treated had symptoms. At one month – 7.1% vs 5.4%

- Otolaryngology- Head and Neck Surgery 2006;135: 529-533.

Treatment of BPV

- Epley manuever (repositioning manuver) symptom resolution at 10 days 50% for Epley vs 17% for sham
- Drugs- not useful given the brevity of attacks. Consider only in patients who do not respond to Epley and have very frequent attacks

Sorting Out Vertigo

- Verticle nystagmus suggests central cause
- If repeat Hallpike-Dix maneuver decreases the symptoms then fatigability is present which suggests the patient has benign positional vertigo
- Most patients with central vertigo are older, with atherosclerosis and often have other brainstem symptoms or cerebeller symptoms (dysarthria, diplopia, or motor symptoms)

Vertigo

- Benign positional vertigo
  - Brief vertigo with positional change
- Vestibular neuronitis
  - Sudden, severe vertigo x days
- Ménière's syndrome
  - Ear fullness, vertigo, tinnitus, hearing loss
- Central vertigo (15%)
  - Associated symptoms universal

Difficult Diagnosis

16) A 39 y.o. man presents with symptoms of nausea and low grade fevers. He has had increasing fatigue over the past 2 months. He has noticed a 10 pound weight loss in the same time period. He does not smoke, drinks approximately 1 alcoholic beverage daily. He is sexually active with one female partner (total lifetime sexual partners 8. Physical exam abnormality shown.

Labs: WBC 3.4, lymph .70, neutrophils 2.4, Hb 13, HCT 39, albumin - 2.6, SGOT 29, SGPT 33, Alk phos 190 (Nl < 130), Ca 10.3, Bun 10, Cr .8, UA-normal.

What test would you order next to help most with a diagnosis ?

(Most likely test to be abnormal and helpful)

A) Abdominal CT scan

B) Chest x-ray

C) HIV test

D) RPR

E) ANA

What epidemiologic information would have more strongly suggested Sarcoidosis in this case?

A) If the patient was from Sweden
B) If the patient was from Canada
C) If the patient was from SE Asia
D) If the patient was from Spain

Sarcoidosis Epidemiology

- Sweden 64/100,000
- U.S. (Blacks) 35/100,000
- U.S. (Caucasians) 10.9/100,000
- Canada 10/100,000

17) Which of the following clinical presentations would have the greatest specificity for Sarcoidosis?

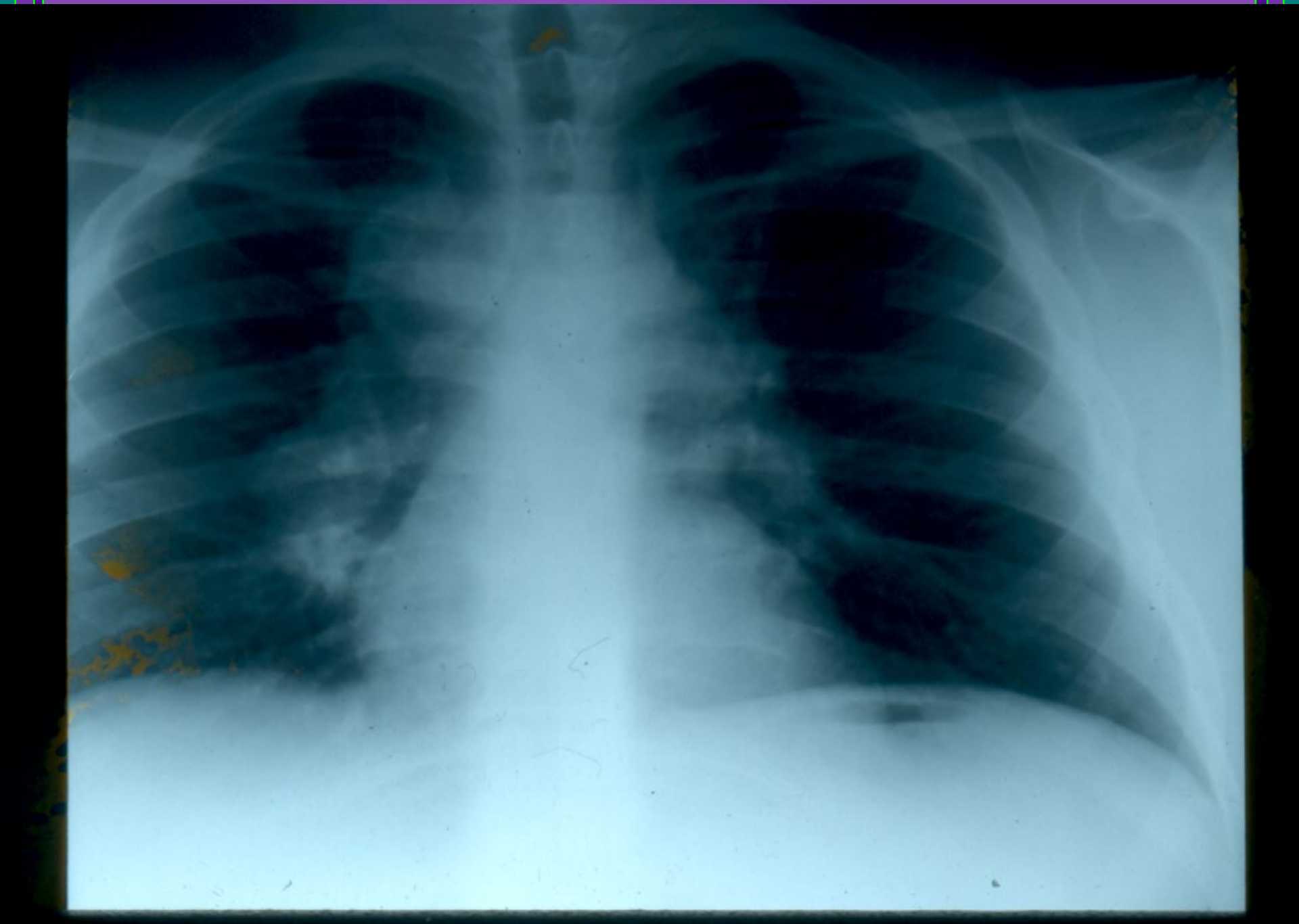
A) Hypercalcemia

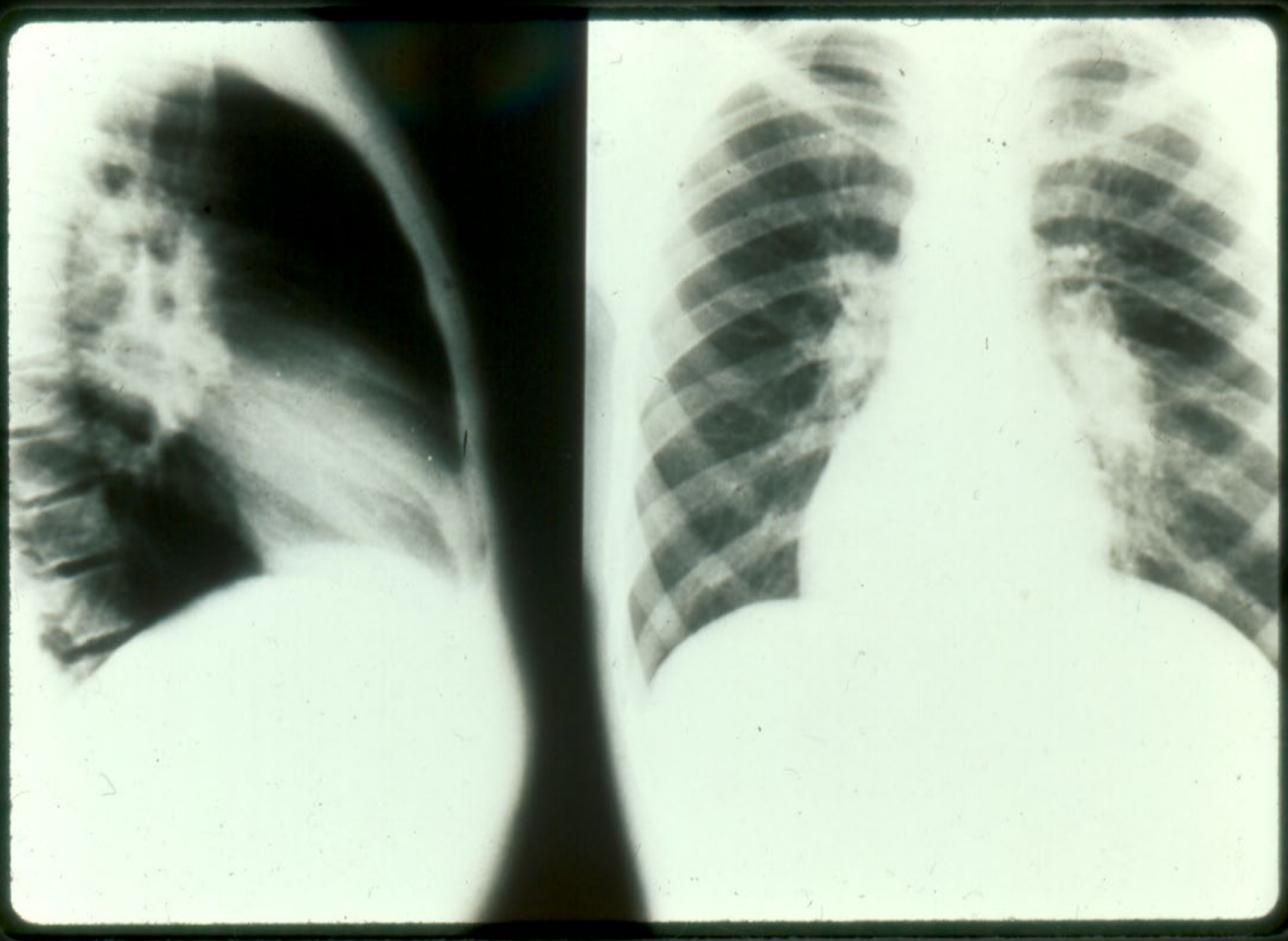
B) Bilateral hilar adenopathy (asymptomatic)

C) 7th nerve palsy

D) Iritis

E) Erythema nodosum





Clinical Interpretation of bilateral hilar adenopathy

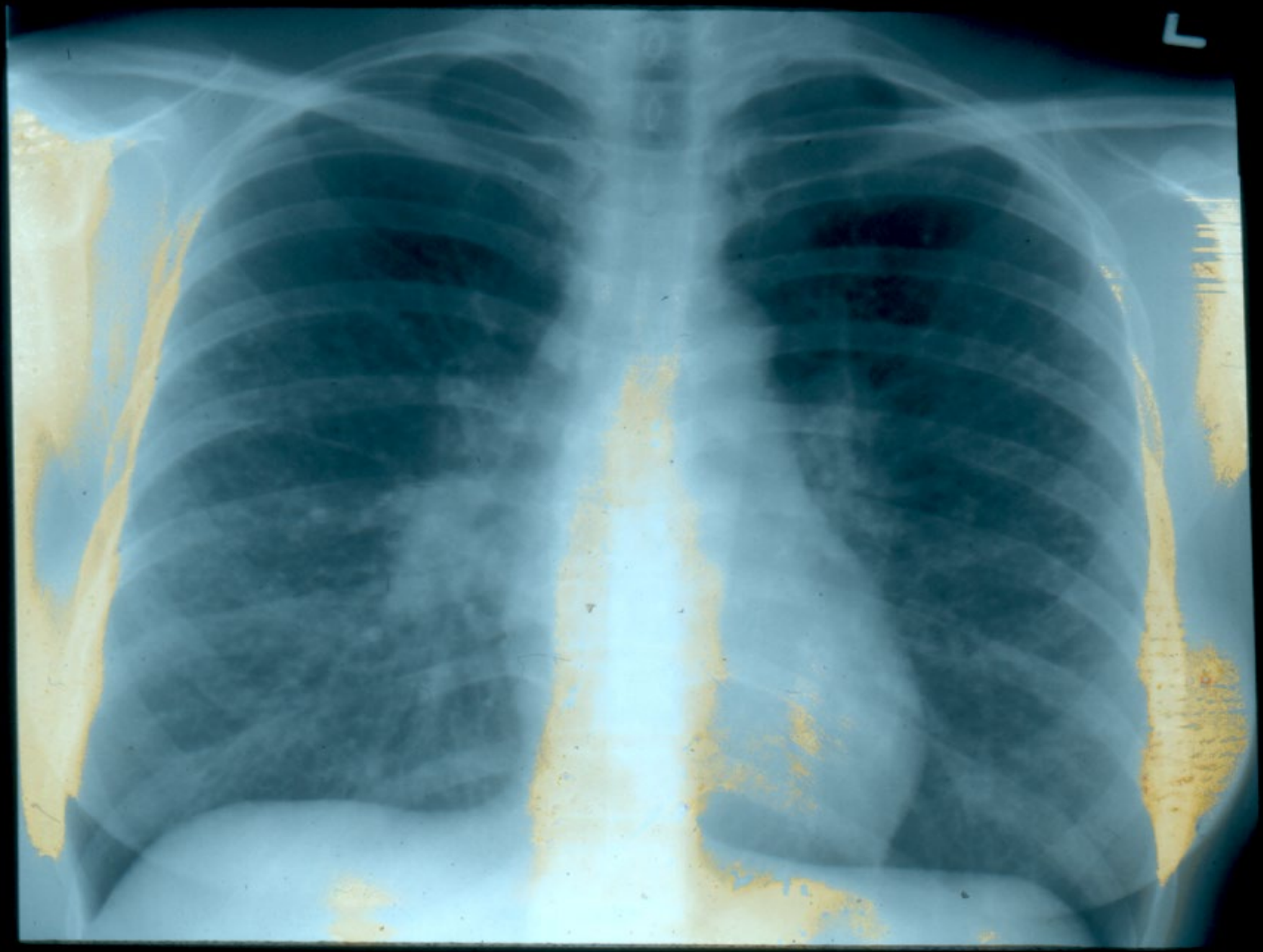
- 85 patients with bilateral hilar adenopathy found among 99 Sarcoid, 500 Bronchogenic lung Ca, 1201 Extrathoracic tumor and 212 lymphoma patients
- 11 patients had bilateral hilar adenopathy due to neoplasm - all were symptomatic
- 74 with hilar adenopathy had Sarcoid. All asymptomatic patients (30) with bilateral hilar adenopathy had Sarcoid

Ann Int Med 1973; 78 (1): 65

Lofgren's Syndrome

- Fever
- Erythema Nodosum
- Arthralgias/arthritis
- Bilateral hilar adenopathy

18) A 29 y.o. female is referred to you because of an abnormal chest x ray. She is in good health without symptoms at this time. One month earlier she was a restrained passenger in a motor vehicle accident and sustained trauma to the chest wall. The x ray was obtained to evaluate for chest wall fractures. Subsequently she has had a bronchoscopy with biopsy showing non caseating granuloma's. PFT's are normal except for a small (10%) reduction in DLCO. Serum calcium is 9.0, bronchial washings negative for AFB.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What would you do?

a) Treat with Prednisone

b) Treat with Hydroxychloroquine

c) Treat with Methotrexate

d) Treat with Interferon

e) No treatment

What Labs Are Helpful In Diagnosing and Following Sarcoid?

Lab Tests and Sarcoid

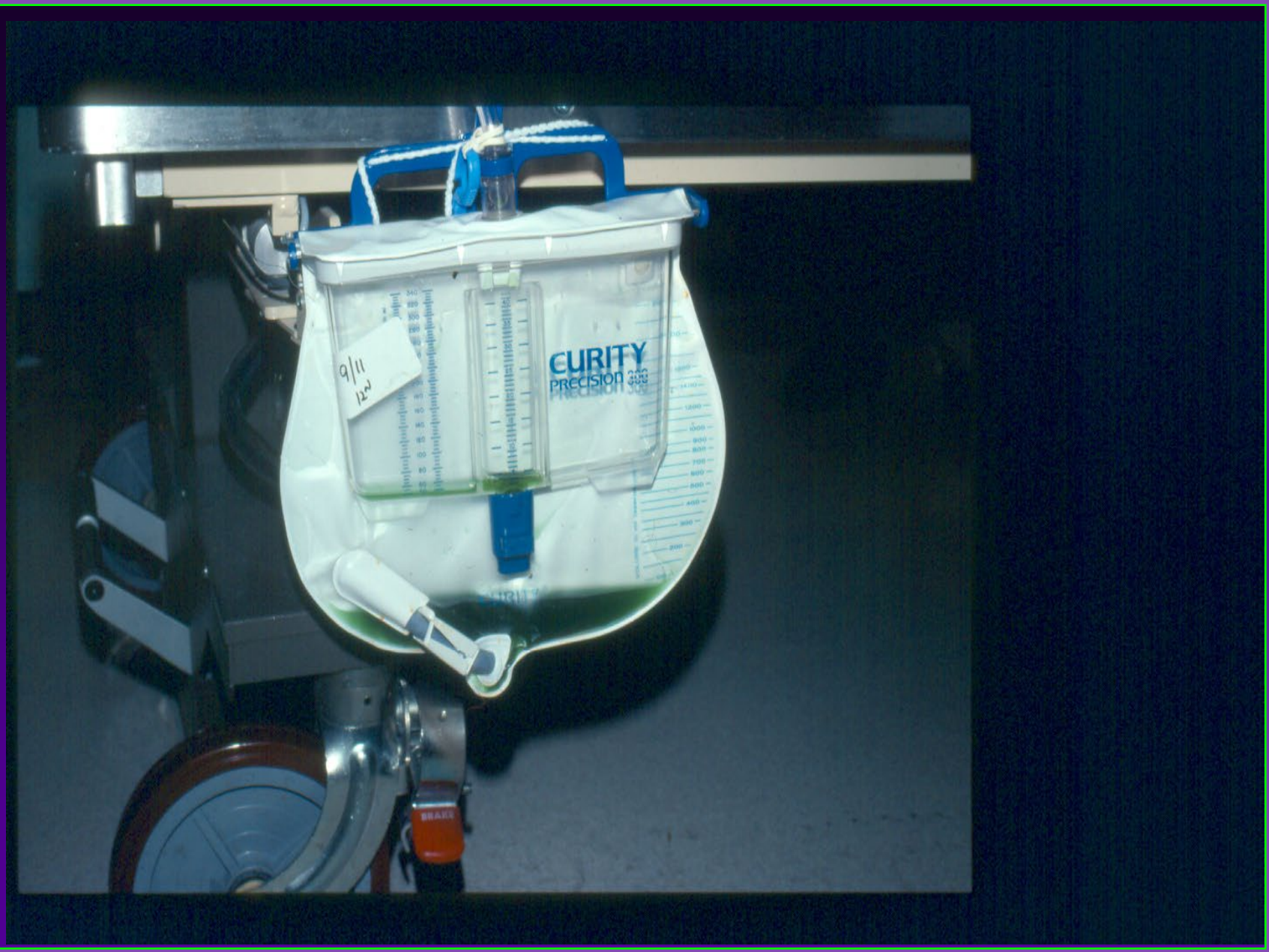
- Most useful- lymphopenia (very low lymphocyte counts, lack of improvement may be prognostically important)
- ACE level- sensitivity 50-75%, not clear on prognosis
- Alkaline Phosphatase correlates with liver involvement
- Beware of low 25 OH Vitamin D levels, patients with sarcoid can have very high 1,25 OH vitamin D levels in the face of low and normal 25 OH vitamin D levels
- Hypercalciuria much more common (50%) than hypercalcemia (10%)

Sarcoidosis
Indications for treatment

- Management of hypercalcemia (steroids)
- Severe arthritis (steroids)
- Skin disease (steroids)
- Iritis/uveitis (topical or systemic steroids)
- Pulmonary disease with symptoms
- Cardiac/CNS involvement (steroids/methotrexate/cyclosporine)

21) A 50 yo man is seen acutely ill and a with a marked change in color. What happened?

A) Pseudomonal sepsis
B) Envy
C) “Hulk syndrome”
D) Something else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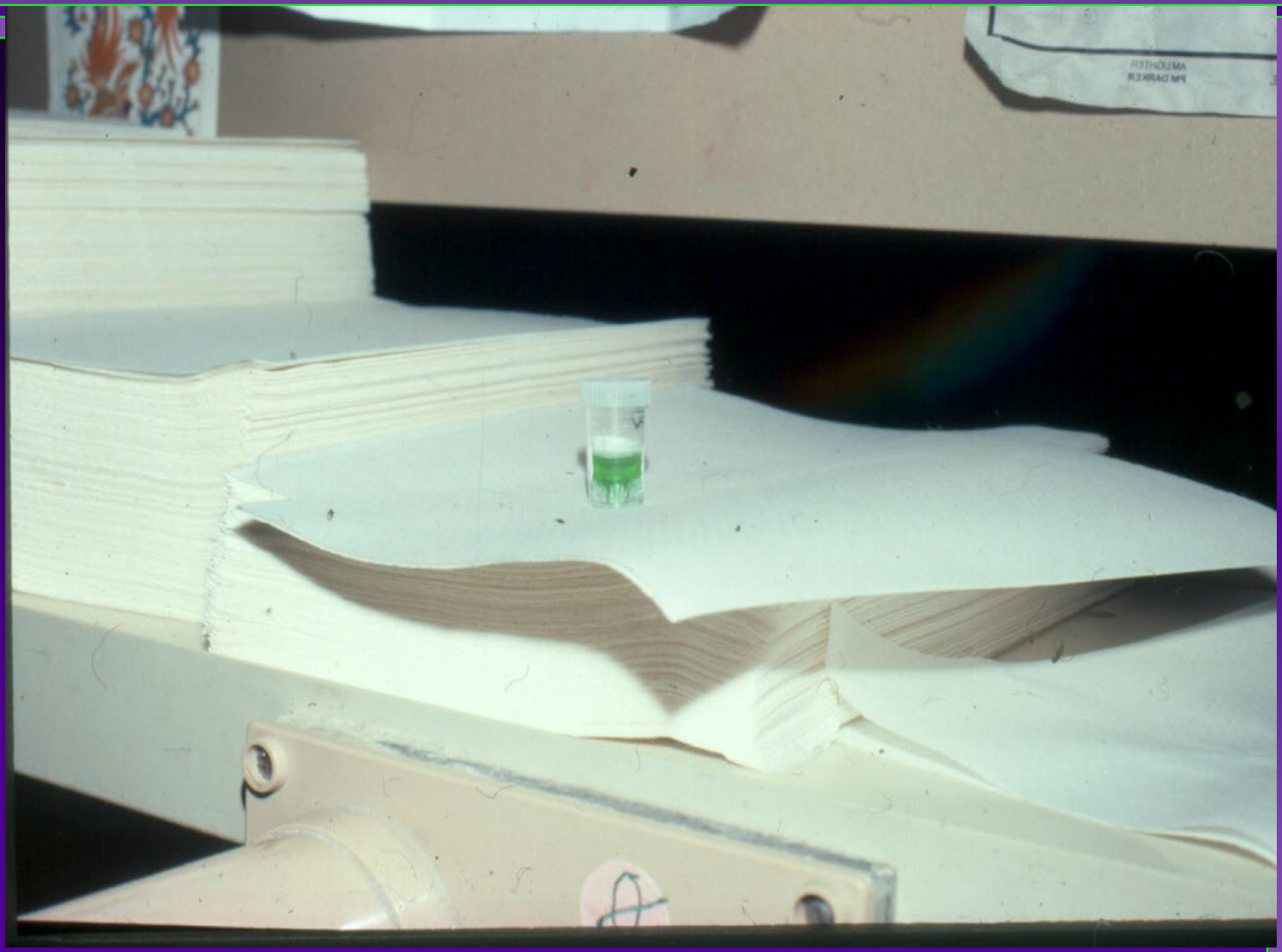

ANSWERS

- 1) F- none of the above
- 2) A- trial antihistamine/decongestant
- 3) B- Gabapentin
- 4) B- CT scan without contrast
- 5) E- no imaging
- 6) A- migraine
- 7) B- migraine
- 8)E- none of the above
- 9) A- symptoms relieved by sleep
- 10) E- prednisone
- 11) D- RLS
- 12) E- multiple sensory deficits
- 13) D- corticosteroids
- 14) A- epley manuever

ANSWERS

- 15) E- brainstem ischemia
- 16) B- chest Xray
- 17) A- if patient is from Sweden
- 18) B- bilateral hilar adenopathy
- 19) E- no treatment
- 20)A- asthma
- 21) E- angiogram
- 22) D- something else