



Wake Forest University Baptist
MEDICAL CENTER®



WAKE FOREST
UNIVERSITY
SCHOOL of MEDICINE

Internal Medicine Residency Morning Report

Tuesday, March 3, 2009

MKSAP Question #1

- A 74-year-old man is evaluated in the emergency department for lightheadedness, near syncope, chest pressure, and diaphoresis. He has a long-term history of atrial fibrillation and had coronary artery bypass graft surgery 2 years ago. His medications are warfarin and nitroglycerin.
 - In the emergency department, electrocardiogram shows an irregular rhythm with anterior ST-segment elevation and frequent premature ectopic beats. He is given heparin and undergoes immediate coronary angiography, which reveals distal diffuse disease, elevated left ventricular end-diastolic pressure, and akinesis of the apical anterior wall with a mildly reduced ejection fraction. Medical therapy is begun. After 3 days in the hospital, he develops facial flushing and hives after receiving aspirin 325 mg orally. His discharge medications include metoprolol, isosorbide dinitrate, captopril, warfarin, and a statin.
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MKSAP Question #1

What additional medical therapy is indicated?

A. Dipyridamole

- Not used in the immediate post-MI period

B. Clopidogrel

- Indicated as antiplatelet therapy in a patient with aspirin allergy

C. Low-molecular-weight heparin

- Not superior to warfarin in a.fib ; will not provide adequate platelet inhibition

D. Glycoprotein receptor blocker

- Used both immediately before and after catheterization for ACS; usually stopped 24 hours after ACS or shortly after intervention
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MKSAP Question #2

- A 49-year-old male physician has a 2-month history of increasing forgetfulness, difficulty reading, loss of interest in his appearance, and walking with a jerky, wide-based gait. He has been unable to work for several weeks. Medical history is unremarkable, and he takes no medications. Family history is noncontributory.
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MKSAP Question #2

- On physical examination, the patient is alert but is uncommunicative and uncooperative. Temperature is 36.9 °C (98.4 °F), pulse rate is 68/min, respiration rate is 16/min, and blood pressure is 132/88 mm Hg. Cardiopulmonary and abdominal examinations are normal. There is bilateral horizontal nystagmus, a diminished gag reflex, and decreased visual acuity (possibly secondary to lack of cooperation). The gait is wide-based and ataxic. A prominent resting tremor of the hands is noted, and ataxic movements are present on finger-to-nose and heel-to-shin testing. Motor strength is good throughout, but several myoclonic jerks of the upper and lower extremities are noted. Sensation is intact except for loss of vibratory sensation in the ankles and feet. Reflexes are symmetrically hyperactive without clonus.
-

MKSAP Question #2

Laboratory Studies	
Hemoglobin	12.9 g/dL (129 g/L)
Hematocrit	39%
Leukocyte count	7700/ μ L (7.7×10^9 /L)
Platelet count	242,000/ μ L (242×10^9 /L)
Blood urea nitrogen	19 mg/dL (6.78 mmol/L)
Serum creatinine	0.7 mg/dL (61.89 μ mol/L)
Urinalysis	Normal

- Lumbar puncture is performed. Cerebrospinal fluid opening pressure is 170 mm H₂O. Cell count shows no leukocytes or erythrocytes. Glucose is 61 mg/dL (3.39 mmol/L), and protein is 77 mg/dL (770 mg/L). MRI of the brain shows no cerebral atrophy. There is equivocal brightening of cortical white matter on diffusion-weighted imaging.

MKSAP Question #2

Which of the following cerebrospinal fluid laboratory studies would be most helpful in supporting the probable diagnosis?

- A. VDRL
 - B. Measurement of amyloid- β
 - C. Measurement of 14-3-3 protein
 - D. Measurement of microtubule-associated protein tau
-

MKSAP Question #2

- A 49-year-old man with a history of alcoholism presents with progressive forgetfulness, weight loss, and difficulty walking with a wide-based gait. He has been on several weeks of medication for depression.

At least
2 of 4

Probable CJD	Possible CJD
Visual/Cerebellar signs	Visual/Cerebellar signs
Extrapyramidal/pyramidal signs	Extrapyramidal/pyramidal signs
Myoclonus	Myoclonus
Akinetic mutism	Akinetic mutism
“typical” EEG findings	
Elevated CSF 14-3-3	

- On physical examination, he is uncooperative and has shallow respirations. Cardiac and pulmonary examination are unremarkable.

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MKSAP Question #2

Which of the following cerebrospinal fluid laboratory studies would be most helpful in supporting the probable diagnosis?

A. VDRL

- Findings not consistent with neurosyphilis

B. Measurement of amyloid- β

- Not associated with prion disease, is present in cells of AD, Lewy body

C. Measurement of 14-3-3 protein

- In proper setting, Sensitivity and Specificity of >90% for sporadic CJD

D. Measurement of microtubule-associated protein tau

- Studied as a marker for Alzheimer's dementia
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MKSAP Question #3

- A 75-year-old man with a 6-month history of the nephrotic syndrome is evaluated for the sudden onset of flank pain and hematuria of 18 hours' duration. Three months ago, his creatinine level was 1 mg/dL (88.42 μ mol/L) and 24-hour urinary protein excretion was 3 g/24 h. At that time, he began treatment with an angiotensin-converting enzyme inhibitor to decrease his proteinuria. His loop diuretic dose also was increased to treat worsening peripheral edema.
 - On physical examination, his blood pressure is 170/90 mm Hg with no orthostatic drop. Cardiac examination reveals an S4 and a normal S1 to S2 with a systolic murmur at the base. The lungs are clear to auscultation and percussion. Ophthalmologic examination reveals hypertensive retinopathy. The abdomen is soft with no masses.
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MKSAP Question #3

Laboratory Studies

Blood urea nitrogen	38 mg/dL (13.57 mmol/L)
Creatinine	2.0 mg/dL (176.84 μ mol/L)
Cholesterol	300 mg/dL (7.76 mmol/L)
Urinalysis	5 erythrocytes and numerous oval fat bodies/hpf; no leukocytes
24-Hour urinary protein excretion	15 g /24 h

MKSAP Question #3

Which of the following most likely precipitated this patient's renal insufficiency?

A. Overaggressive diuresis

- Clinically he is not hypovolemic; normal orthostatics

B. Renal artery stenosis

- Would not be expected to produce hematuria

C. Renal vein thrombosis

- Nephrotic syndrome is a hypercoagulable state; increased DVT/RVT risk

D. Kidney stones

- Usually only bilateral stones would cause increased SCr
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Question #4

During the spring US Daylight Savings Time adjustment, what change is made?

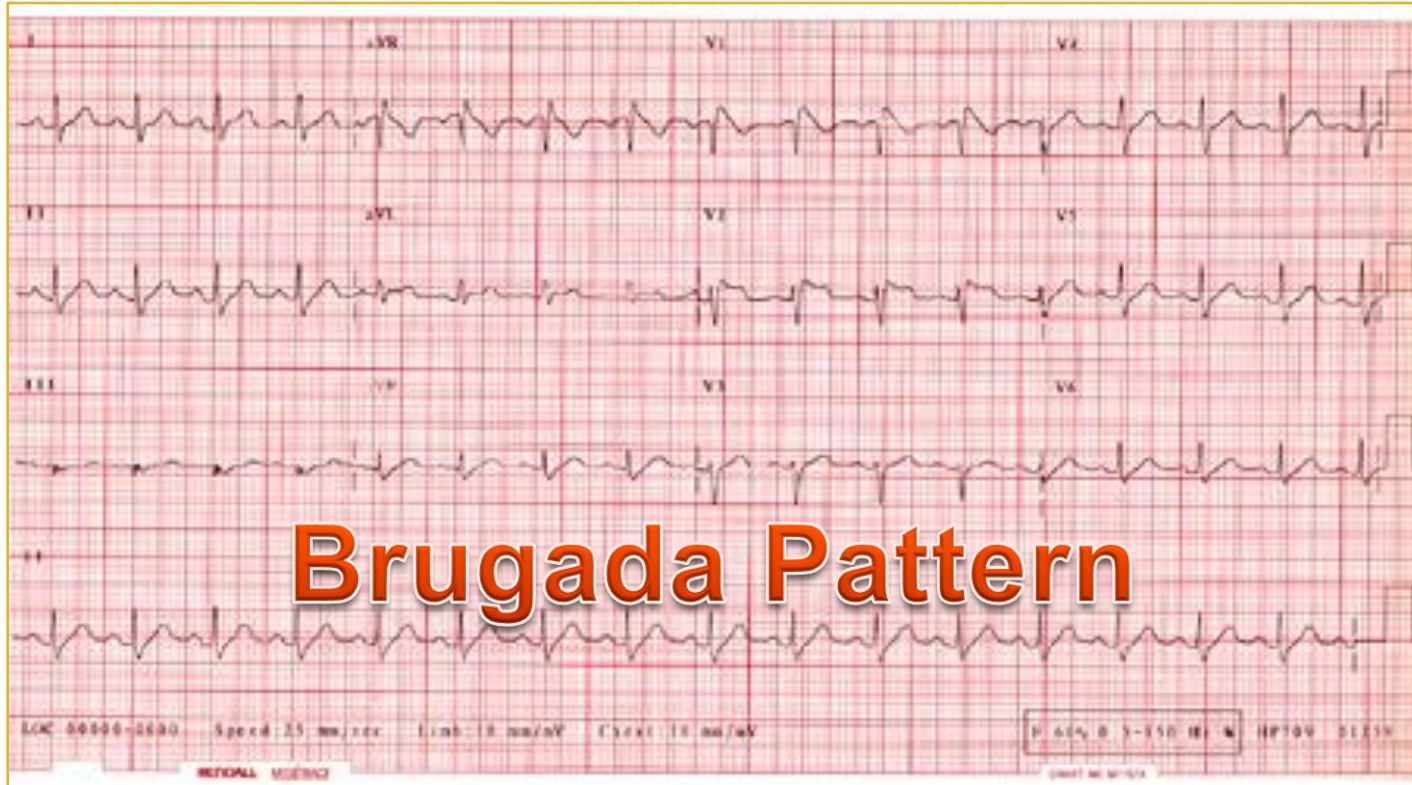
- A. At midnight, advance by one hour
- B. At 2am, advance by one hour
- C. At midnight, move back by one hour
- D. At 2am, move back by one hour
- E. I give up, I'm just always late that day

YOU CAN'T STOP TIME...



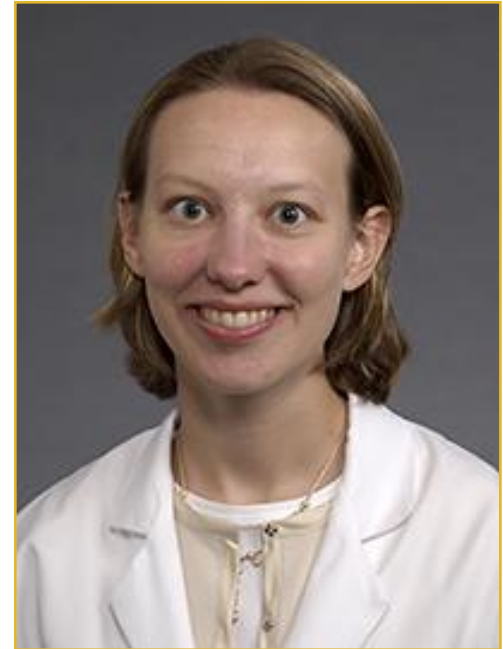
But you can turn it back one hour at 2 a.m. on Oct. 28 when daylight-saving time ends and standard time begins.

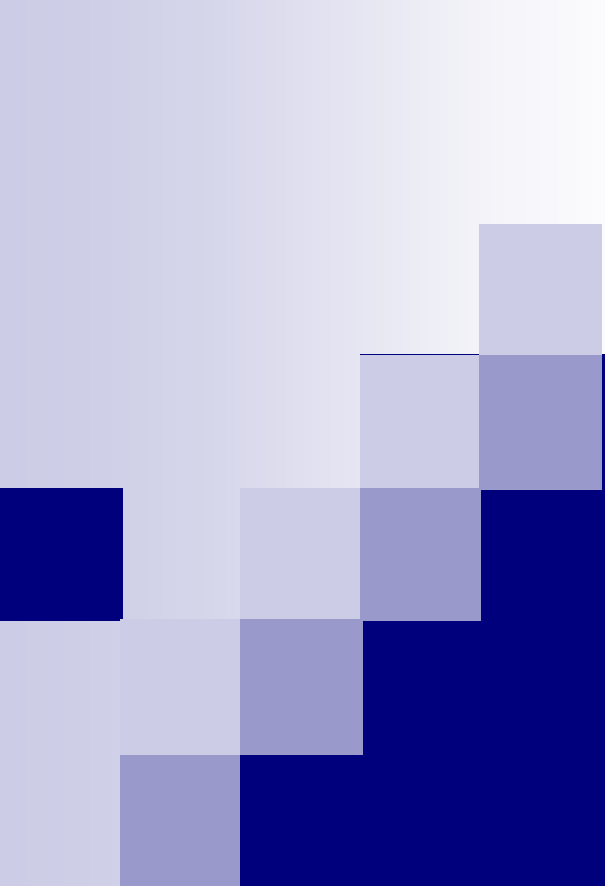
Clinical Image of the Day



Case Presentation

Dr. Charis Taylor





Charis Taylor
Morning Report
March 3, 2009

Essential Mixed Cryoglobulinemia (Type II)

- Generally secondary to persistent viral infections such as HIV and Hepatitis C
- Symptoms due to deposition of antigen-antibody complexes in small and medium-sized blood vessels
- Often overlaps with connective tissue diseases and autoimmune syndromes

Presentation

- 30% present with Meltzer's triad
 - purpura (non-blanching and palpable, usually on legs)
 - arthralgia
 - weakness
- Symptoms wax and wane with spontaneous remissions and exacerbations
- Exacerbated by cold exposure
- Occult arthritis and myositis rarely occur despite symptoms of arthralgia and myalgia; commonly have fatigue
- Arthralgia usually involves MCP, PIP, knees, ankles

Presentation

- Cutaneous manifestations due to leukocytoclastic vasculitis can be confirmed with biopsy
- Sensory deficits and weakness due to secondary peripheral neuropathy
- More common in women than men
- Average age of onset is 60

Why a high RF titer?

- Rheumatoid factor is elevated because of the monoclonal IgM rheumatoid factor directed against polyclonal IgG

Diagnosis

- Although there is not a clear consensus, the diagnosis of cryoglobulinemia syndrome requires
 - persistent elevated serum cryoglobulins for 3-6 months, *AND*
 - clinical indicators of cryoglobulinemic vasculitis or thrombosis such as purpura from leukocytoclastic vasculitis or low levels of complement (C4), *AND/OR*
 - cryoglobulins on biopsy

Treatment

- Maintenance with prednisone and cyclophosphamide
- For acute severe disease (ARF, distal necrosis, neuropathy)
 - Plasmapheresis (3/wk x 2-3 wks)
 - IV methylprednisone x 3 days
 - Followed by maintenance therapy
- For HCV or HBV
 - Interferon alpha +/- Ribavirin

Complications

- Lymphoproliferative diseases in 5-10 % within 5-10 years
- Membranous proliferative glomerulonephritis
 - More common if they have underlying Hepatitis C

References

- Ferri C. Mixed cryoglobulinemia. Orphanet Journal of Rare Disease. 2008;3:25.
- Mascia, MT. Non-HCV related mixed cryoglobulinemia. Digestive and Liver Disease. 2007;39(suppl 1):S61-64.
- Richard Glasscock, Ed. Clinical manifestations and diagnosis of essential mixed cryoglobulinemia. Up-To-Date. 2008.