MECHANISMS OF HUMAN DISEASE AND PHARMACOLOGY & THERAPEUTICS

CASE-BASED SMALL GROUP DISCUSSION

Session XII
MHD I

Friday, November 15, 2013

STUDENT COPY

Case 1

CHIEF COMPLAINT: "I am very tired and now my chest hurts."

HISTORY: Ms. H.G. is a 29 year-old woman who has noticed left sided chest pain for the past few weeks. Prior to the onset of her chest pain, she had increasing fatigue but she attributed it to the planning and "stress" of her wedding last month. Not only was her hair falling out at the time but she also was told she might have syphilis after her premarital blood test. During her honeymoon 2 weeks ago in St Martin she began to notice sharp stabbing pains over her left chest that were much worse when she was sitting or taking a deep breath. Now she is so tired in the early morning that she has missed several days at work.

PAST MEDICAL HISTORY: The patient has been in good health until recently.

REVIEW OF SYSTEMS: For the most part, unremarkable but her period is 10 days late and she is worried that she could be pregnant even though she has taken her oral contraceptive correctly. The only other complaint was that she had a very tender calf muscle for 2 days after returning from her honeymoon.

PHYSICAL EXAMINATION:

VS: HR 90 and regular, BP 122/85, R 20, T 37.9 C orally.
Head: Approximately 8-10 strands of hair can be pulled out with gentle tug, also suggestion of temporal balding
Mouth: shallow gingival ulcer with non-purulent base
Lymphoid: multiple enlarged, non- tender cervical, axillary and femoral nodes.
Neck: supple with full range of motion.
Lungs: both lungs are resonant by percussion with auscultation revealing normal breath sounds over the right base but diminished ones over the left base.
CV: percussion and auscultation of the heart reveals no abnormalities. S1 and S2 are normal. There is a faint late diastolic and early systolic scratch sound at the LLSB.
Abd: soft and non-tender with no evidence of liver or spleen enlargement.
Ext: examination of the fingers reveals normal color and temperature with no evidence of gangrenous changes. No synovitis is present and there is full range of movement in all joints.
Skin: Deeply tanned with a faint erythematous maculopapular rash over the cheeks, bridge of the nose and upper chest and arms.
Neuro: WNL.

INITIAL LABORATORY ASSESSMENT:

CBC w/Diff

WBC	3.0	[4.0-10.0] k/ul
RBC	2.44	[3.60-5.50] m/ul
Hgb	8.0	[12.0-16.0] gm/dl

Hct	24.1	[34.0-51.0] %
MCV	83	[85-95] fl
MCH	28	[28.0-32.0] pg
MCHC	32.1	[32.0-36.0] gm/dl
RDW	15.3	[11.0-15.0] %
Plt Count	75	[150-400] k/ul
Manual Diff		
Gran	85	[45-70] %
Lymph	9	[20-45] %
Mono	5	[0-10] %
Eo	1	[0-7] %
Baso	0	[0-2] %

Complete Metabolic Panel

Glucose	72	[70 - 100]	mg/dl
Blood Urea Nitrogen	12	[7 - 22]	mg/dl
Creatinine	2.1	[0.7 - 1.4]	mg/dl
Calcium	8.0	[8.5 - 10.5]	mg/dl
Sodium	136	[136 - 146]	mmol/L
Potassium	4.0	[3.5 - 5.3]	mmol/L
Chloride	104	[98 - 108]	mmol/L
Carbon Dioxide	24	[20 - 32]	mmol/L
Albumin	3.0	[3.6 - 5.0]	gm/dl
Protein, Total	9.5	[6.2 - 8.0]	gm/dl
Alkaline Phosphatase	33	[25 - 215]	IU/L
AST	35	[5 - 40]	IU/L
Bilirubin, Total	0.6	[0.2 - 1.4]	mg/dl

Prothrombin Time

Prothrombin Time	12.1	[11.8-13.2] sec
INR Ratio	1.0	

APTT

APTT	68	[22.9-34.3] sec

UA w/Micro

Color	yellow	[YELLOW]
pH	5.5	[4.5-8.0]
Spec Gravity	1.010	[1.003-1.035]
Protein	2+	[NEG]
Blood	SML	[NEG]
Glucose	NEG	[NEG]
Ketones	NEG	[NEG]
Bilirubin	NEG	[NEG]
Urobilinogen	0.2	[0.2-1.0] eu/dl
NITRATE	NEG	[NEG]
LEUKOCYTES	NEG	[NEG]
RBC	5-10	[0-2] /hpf
WBC	0-2	[0-5] /hpf

Erythrocyte Sedimentation Rate

SED RATE	100	[0-20] mm/h

Antinuclear Antibody Screen

ANA screen	PENDING

Micro – **Blood Culture** (Final)

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         Specimen Description -blood
             Special Requests -none
              Culture Results -no growth after 5 days
                Report Status - Final
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EDUCATIONAL OBJECTIVES:

1. Explain how the clinical and laboratory clues presented above strongly suggest this young woman has a systemic inflammatory disease and what that disease most likely is.

2. Using these clues and an awareness of autoimmune epidemiology, justify and outline further workup for her disease. Predict the outcome of specialized testing for autoantibodies in this patient and how the results define the extent of laboratory workup for making the correct diagnosis. A procedure was performed (Students are directed to review Renal - Set 2 case images on LUMEN)

3. There are special clinical and laboratory features in this patient that point to significant complicating factors and a poor prognosis. What are they and what additional testing do they mandate?

4. What is the fundamental strategy in the treatment of her underlying disease. Realizing that there is intense controversy over what is THE definitive or "curative" treatment of her disease, use your Host Defense concepts (What type of "hypersensitivity syndrome" does she have?) and get creative in the discussion on how you would treat her. Consider the likelihood that she may not tolerate a chemotherapy approach and construct a monoclonal antibody that might work. You may be surprised-there is already one out there!

5. Finally, is future pregnancy an option for this patient?

Cases 2,3 Unknowns
Students will not have case data until session meets.