

Directions: Questions (1-22). Circle the one best answer.

B 1. A 16-year-old boy fell on an outstretched hand while playing basketball and now presents with pain in the left wrist. The examination reveals tenderness over the lateral aspect of the wrist in the anatomical snuffbox. The x-rays reveal no fracture. The splint immobilization of the left wrist is done. Two weeks later patient still has pain in the wrist and repeat x-rays again show no evidence of fracture. At this time you will now recommend:

(A) Local steroid injection

(B) Bone scan

(C) Start physical therapy

Distal Scaphoid Fr.

B 2. A 20-year-old female consults you for intermittent fever, macular rash over abdomen and polyarthritis of 6 weeks duration. The rash usually appears during the temperature spike. The physical examination reveals generalized lymphadenopathy, mild hepatomegaly, palpable spleen tip, swelling of both knees, left ankle and right wrist. The laboratory findings reveal a WbC count of 18000/uL with 80% neutrophils, HCT 32 %, sed rate 100mm/h, negative RF, negative ANA and negative blood cultures.

Based upon the above information, the most likely diagnosis is:

(A) Parvo virus B 19 infection

(B) Adult onset still's disease

(C) Reiter's syndrome

A 3. A 56-year-old male patient presents with gradually increasing pain and swelling of hand joints for the last few months and diminished libido. One of his brothers recently died from cirrhosis of liver. The examination reveals swelling and tenderness of the few metacarpophalangeal and the proximal interphalangeal joints of both hands in an asymmetrical fashion. The skin is pigmented and the liver is slightly enlarged. The x-rays of the hands reveal osteoarthritis changes in both hands. The laboratory findings reveal blood glucose of 175 mg/dL and mildly elevated AST, ALT and alkaline phosphatase. Based upon the above information, you will now recommend:

(A) Serum iron, transferrin saturation and ferritin levels

(B) ANA and rheumatoid factor

(C) Serum cryoglobulins

(D) Hepatitis profile

D 4. A 40-year-old man presents with one-week history of diffuse, intense burning pain in the right foot. The pain is so intense that he cannot sleep at night and even touching the foot with a blanket causes severe pain. 2 weeks ago he fell and sustained injury to the right foot. The x-rays of right foot at that time revealed no fractures. On examination the right foot is swollen, tender, has a mottled cyanotic appearance and is slightly cold and moist compared to his left foot. All peripheral pulses are normal.

Based upon the above information, the most likely diagnosis is:

(A) Tarsal tunnel syndrome

(B) Osteomyelitis of the foot

(C) Popliteal vein obstruction

(D) Reflex sympathetic dystrophy syndrome

C 5.

A 30-year-old woman presents with weakness, low grade fever and pain in the right arm with sustained use for the last 3 months. The physical examination reveals a temperature of 100 F, blood pressure 70/50 mm Hg in the right arm and 130/80 mm Hg in the left arm and a bruit is present in the right axilla. The blood tests reveal a Hb 10 g/dL, Hct 30%, WBC 7000/uL, sedimentation rate 90, ANA negative and RF negative.

Based upon the above information, the most likely diagnosis is:

- (A) SLE
- (B) Polyarteritis nodosa
- (C) Takayasu's arteritis
- (D) Behcet's syndrome

C 6.

A 42-year-old female presents with burning pain affecting the fingers of left hand. Pain is worse at night and when she is working on her computer. Examination reveals reduced sensations over the palmar surface of the thumb, index and middle fingers, and radial aspect of the ring finger. There is slight atrophy of the thenar muscles but all the movements of the thumb are normal.

The patient's symptoms are caused by:

- (A) Compression of the median nerve at the elbow
- (B) Compression of the ulnar nerve at the wrist
- (C) Compression of the median nerve at the wrist
- (D) Compression of the radial nerve in the upper arm

Dx: Carpal Tunnel Syndrome

C 7.

A 32-year-old female presents with swelling of right lower extremity of 4 days duration. She also gives history of arthralgias involving multiple joints and tendency to develop a facial rash after exposure to sun for the last few years. She is married for 5 years and has no children. She has a history of two spontaneous abortions. Physical examination reveals edema of the right leg and thigh. The venous Doppler is positive for right femoral vein thrombosis. The laboratory tests reveal Hb 13 g/dL, platelet count of 70000 /mm³ (nl : 130000-40000), WBC 7000/ uL, BUN/Cr normal, PTT 20 s (control 12 s), PT 12s (control 12 s), ANA +, VDRL + and phospholipid antibody + :

Which of the following is the most appropriate treatment for this patient?

- (A) IV heparin followed by warfarin plus high dose steroids
- (B) IV heparin followed by warfarin for 6 months
- (C) IV heparin followed by long-term treatment with warfarin
- (D) High dose steroids plus cyclophosphamide

D 8.

A 80-year-old white male presents with a 2-week history of pain and stiffness around shoulders, hips and neck area, arthralgias, low grade fever and poor appetite. The physical examination reveals no muscle weakness or joint swelling. The Hb/HCT, glucose, BUN, Cr and electrolytes are normal

Which of the following tests you will now order to confirm his diagnosis:

- (A) ANA
- (B) RF
- (C) Temporal artery biopsy
- (D) Sedimentation rate

Dx: PMR

B

9.

A 45-year-old man with a history of diffuse scleroderma over the last 3 years consults you because of marked weakness, severe headaches, and blurring of vision over the last three days. Physical examination reveals BP 240/130, pulse 90/min., skin changes suggestive of scleroderma, and fundi showing blurring of disc margins and multiple retinal hemorrhages.

Laboratory findings: Hb 7 g/dL, Hct 22 %, WBC: 12,000/ul, reticulocyte index: 8% Peripheral smear: fragmented red blood cells, LDH: 700 U/L (nl : 60-100), BUN 40 mg/dL, Creatinine 2.5 mg/dL

Based upon the above information, you will now recommend:

- (A) High dose of steroids
- (B) ACE inhibitor
- (C) Emergency bilateral nephrectomy
- (D) Intravenous cyclophosphamide

Dx: Renal Crisis of Scleroderma

B

10.

A 50-year-old male patient with a long-standing history of ankylosing spondylitis consults you with sudden onset of sharp pain in the upper back in the mid-thoracic region. The examination reveals BP 160/60, pulse 80/min. and bounding, early diastolic decrescendo murmur which is best heard in the aortic area and increases with expiration, and marked tenderness over the sixth thoracic vertebra.

Based upon the above information, the most likely diagnosis is:

- (A) Aortic dissection
- (B) Vertebral compression fracture
- (C) Osteomyelitis of the spine
- (D) Acute aortic insufficiency

C

11.

A 60-year-old man has a three-month history of bilateral leg pain. The pain occurs on ambulation and especially when he is descending stairs or walking on an incline. The pain is also associated with numbness, tingling, and weakness of both legs. Symptoms resolve within 5 to 10 minutes of resting. All peripheral pulsations are normal and there are no focal neurological signs.

Based upon the above information, you should now obtain

- (A) Arterial doppler studies of the lower extremities
- (B) Bone scan
- (C) MRI of the lumbar spine
- (D) EMG and nerve conduction studies

Dx: Spinal Stenosis

C

12.

A 16-year-old boy presents with a four-day history of pain in the legs and abdomen, rash over both legs, and pain and swelling of right ankle and left knee. Ten days ago, he had an upper respiratory tract infection. A physical examination reveals a temperature of 100.5 degrees F, extensive purpuric rash over both legs and swollen right ankle and left knee.

Laboratory findings: Hb/Hct, WBC, platelet count, BUN/CR : normal
Urine: 3+ protein, 10-20 RBC's / hpf.

ANA: negative, ASLO titer: normal, throat culture : normal flora.

The most appropriate therapy for this patient should be:

- (A) High dose of aspirin
- (B) Oral penicillin for 10 days
- (C) Acetaminophen orally and add prednisone if symptoms persist

Dx: HSP

D 13. A 30-year-old woman has 6 months history of diffuse musculoskeletal pain, recurrent headaches, fatigue and insomnia. Physical examination reveals no evidence of muscle weakness or atrophy. On palpation there are multiple tender points around the neck, scapulae, buttocks, elbows and knees. Laboratory findings: CBC and sed.rate normal, CPK: normal. The best course of action now should be :
(A) EMG and nerve conduction studies.
(B) Muscle biopsy
(C) Refer patient to a psychiatrist
(D) Start low dose of amitriptyline

Dx: Fibromyalgia

D 14. You are asked to evaluate a 30-year-old woman with a history of rheumatoid arthritis for the last 3 months. She has been on ibuprofen (1600 mg/day), which has resulted in some improvement in her symptoms. The examination reveals swelling and tenderness over wrists, metacarpophalangeal joints and proximal interphalangeal joints. The blood tests reveal a positive rheumatoid factor and a sedimentation rate of 50 mm/h. The x-rays of hands reveal no bony erosions. Based upon the above information, you will now recommend:
(A) Increase dose of Ibuprofen to 2400 mg/d and repeat x-rays in 6 months
(B) Discontinue ibuprofen and change to celecoxib
(C) Add low dose prednisone
(D) Add weekly methotrexate

C 15. A 50-year-old man with a long-standing history of rheumatoid arthritis consults you because of a sudden onset of pain and swelling of his right leg. Examination reveals erythema, swelling, and tenderness in the right calf. Homman's sign is positive on the right side.

Based upon the above information, you will now request:
(A) Intravenous heparin and arrange for the venography of the right leg
(B) Bone scan to rule out osteomyelitis
(C) Ultrasonography of the popliteal area and calf
(D) Intravenous broad-spectrum antibiotics

Dx: Ruptured Popliteal Cyst

B 16. You are asked to evaluate a 70-year-old woman because of pain in her left knee over the last three days. She has a long-standing history of osteoarthritis and underwent left knee replacement two years ago. She is taking naproxen for the control of arthritic symptoms. Physical examination reveals a temperature of 100 F, BP 150/80, painful movement of the left knee with evidence of effusion.

Laboratory studies

CBC, BUN/ Cr, electrolytes.....Normal
Sed rate.....70 mm/h
X-ray of left knee.....Moderate effusion

Based upon the above information, the most likely diagnosis is:

- (A) Acute gout superimposed on osteoarthritis
- (B) Septic arthritis in the prosthetic joint
- (C) Acute bursitis
- (D) Flare of osteoarthritis

A

17.

A 28-year-old male presents with a 4 day history of pain and swelling of the left ankle, right knee, and the toes of the left foot. 2 weeks ago, he had an episode of urethritis, which was treated with doxycycline. Physical examination reveals a swollen and tender right knee and left ankle, sausage like swelling of the toes of the left foot, ulceration of the palate, conjunctival injection of the left eye, a scaly papular rash on the palms and soles, and a clear urethral discharge. The cultures of the urethral discharge and the synovial fluid aspirated from the right knee are negative. Based upon the above information, you will now request:

- (A) HIV testing
- (B) HLA B27 antigen
- (C) ANA and RF
- (D) Anti-Ro antibody

Dx: Reactive Arthritis

A

18.

You are asked to evaluate a 70-year-old woman who has been complaining of right-sided headache, jaw pain on eating, pain and stiffness of neck muscles for the last one-week. She also describes intermittent blurring of vision in the right eye since two days. Physical examination reveals tenderness in the right parietal area. The muscle strength is normal.

Laboratory studies:

Hb/Hct 10/30, WBC 10000/ul, Sed. rate 94 mm/h, CPK normal

Based upon the above information, the best course of action should be:

- (A) Start high dose prednisone and arrange for temporal artery biopsy
- (B) Order ANA & rheumatoid factor
- (C) Arrange temporal artery biopsy and do not start any treatment
- (D) CT scan of the head

B

19.

A 56-year-old man presents you with one-week history of muscle weakness and fatigue. He has a history of hypertension and hypercholesterolemia and was started on propranolol, lovastatin and niacin 2 months ago. Physical examination reveals generalized muscle weakness.

Laboratory studies:

CBC, BUN/Cr, electrolytes..... normal

CPK..... 1200 U/ L (nl : 30-170 U/ L)

Based on the information you will now recommend:

- (A) Discontinue niacin
- (B) Discontinue lovastatin
- (C) Muscle biopsy
- (D) EMG and nerve conduction studies

B

20.

A 32-year-old man seeks medical attention because of fever, weakness, arthralgias and abdominal pain of 3 weeks duration. 2 days ago he noticed sudden onset of weakness of his right hand. Physical examination reveals a BP 170/100, pulse 80/minute; diffuse abdominal tenderness without rebound and weakness of extensors of right hand.

↓
wristdrop

Laboratory findings:

CBC... Hb 9.0 g/ dL, Hct 27%, WBC 14000/uL, sed rate... 110mm

Urine analysis ... 1+ protein, 50-100 RBC/ hpf,

Chest x-ray... normal, Abdominal x-ray... normal

The most likely diagnosis is:

- (A) Systemic lupus erythematosus
- (B) Polyarteritis nodosa
- (C) Wegener's granulomatosis
- (D) Allergic granulomatosis

- D** 21. Each of the following is the acceptable treatment of acute gouty arthritis except:
- (A) Indomethacin
 - (B) Oral or intraarticular steroids
 - (C) Intravenous or oral colchicine
 - (D) Allopurinol

- A** 22. A 66-year-old lady with long standing history of rheumatoid arthritis presents with weakness, chronic foul-smelling diarrhea, easy bruising, parathesias and tingling of the right hand and gradually increasing peripheral and facial edema. She has been on aspirin for many years and denies taking any other drugs recently. On examination she has a large tongue, hepato-splenomegaly, diminished sensations in the first 3 1/2 digits of the right hand, 3+ pedal edema and mild facial edema.

Laboratory findings:

CBC, electrolytes, BUN/ Cr..... normal

Urine..... 4+ protein, oval fat bodies +

24 hour urine protein..... 8gm/day

EKG..... low voltage in all leads

In order to make the diagnosis, the best diagnostic procedure to perform is:

- (A) Rectal biopsy
- (B) Renal biopsy
- (C) Measure serum cryoglobulins
- (D) Bone marrow aspiration and biopsy

Di = Amyloidosis

Directions: Items (23-50) are true and false questions. Mark T for statements that are true and F for statements that are false

23-25 Following statements are true about patients with systemic lupus erythematosus

- T** 23. Presence of cardiolipin antibodies increases the risk of DVT, stroke and spontaneous abortion
- F** 24. Drug induced lupus can be differentiated from spontaneous systemic lupus erythematosus by the presence of anti histone antibody
- T** 25. Anti Ro antibody is associated with neonatal SLE, which can lead to development of congenital heart block, skin rash & thrombocytopenia

26-28 A 70-year-old man presents with progressive loss of hearing in both ears associated with enlargement of skull and low back pain. X-rays reveal thickening of the pelvic brim, coarse trabecular pattern in the lumbar spine and pelvis & an area of localized osteoporosis of the skull.

Following complications can be associated with this condition

- T (26) Osteogenic sarcoma
- T (27) Deafness due to compression of the eight cranial nerve
- T (28) Cardiac failure

29-31 A 32-year-old man presents with history of low back pain for many years and inflammatory arthritis involving multiple joints for the last 3 months. X-rays reveal erosive changes of the both sacroiliac joint.

This disorder may be associated with the following complications

- T (29) Aortic insufficiency
- T (30) Uveitis
- T (31) Pulmonary fibrosis

32-35 Following statements are true about arthritis associated with deposition of calcium pyrophosphate crystals

- T (32) It may cause both inflammatory and degenerative arthritis
- T (33) Most patients show evidence of chondrocalcinosis on x-ray
- T (34) Aspiration of involved joints shows rhomboid shaped crystals that are weakly birefringent under polarized light
- F (35) It can lead to development of sacroileitis

36-40 A 35-year-old man presents with bloody nasal discharge, recurrent sinusitis, cough, hemoptysis & shortness of breath. Lab studies reveal :

Chest x-ray... multiple nodular densities, BUN/Cr... 70/3.5

Urine.....2+ protein, 20-30 RBC/hpf, RBC's casts +

The true statements regarding this patient include

- F (36) Antibasement membrane antibodies are likely to be positive
- T (37) Antineutrophilic cytoplasmic antibodies are likely to be positive
- T (38) Treatment should be with prednisone and cyclophosphamide
- F (39) Serum complement levels are likely to be low
- F (40) His illness may be complicated by autoimmune hemolytic anemia

41-45 Side effects of long-term therapy with oral cyclophosphamide include

- T (41) Amenorrhea
- F (42) Renal failure
- T (43) Chronic cystitis
- T (44) Carcinoma of urinary bladder
- F (45) Liver fibrosis

46-50 Following statements are true about autoantibodies in various disorders

- T (46) Anticentromere antibodies are found in CREST variant of scleroderma
- T (47) Anti double stranded DNA antibodies are highly specific for SLE
- T (48) Jo1 antibodies are associated with dermatomyositis & polymyositis
- T (49) Anti RNP antibodies are found in mixed connective tissue disorder
- F (50) Antibasement membrane antibodies are found in Wegener's

Ox = Wegener's

Answers to Rheumatology questions

- | | | | |
|-----|---|-----|---|
| 1. | B | 26. | T |
| 2. | B | 27. | T |
| 3. | A | 28. | T |
| 4. | D | 29. | T |
| 5. | C | 30. | T |
| 6. | C | 31. | T |
| 7. | C | 32. | T |
| 8. | D | 33. | T |
| 9. | B | 34. | T |
| 10. | B | 35. | F |
| 11. | C | 36. | F |
| 12. | C | 37. | T |
| 13. | D | 38. | T |
| 14. | D | 39. | F |
| 15. | C | 40. | F |
| 16. | B | 41. | T |
| 17. | A | 42. | F |
| 18. | A | 43. | T |
| 19. | B | 44. | T |
| 20. | B | 45. | F |
| 21. | D | 46. | T |
| 22. | A | 47. | T |
| 23. | T | 48. | T |
| 24. | F | 49. | T |
| 25. | T | 50. | F |