Case 1
77 year old man with recently diagnosed left ventricular hypertrophy, 25# unintentional weight loss with frequent post-prandial diarrhea, and proximal lower extremity weakness progressive over ~1 year. Neurological examination confirms 4/5 hip flexor strength bilaterally, with 5/5 strength in the bilateral upper extremities and distal lower extremities. Vibratory sense is decreased in the toes and ankles, with intact proprioception and light touch. Potential INITIAL diagnostic tests include all of the following EXCEPT:
A. Serum/urine protein electrophoresis + immunofixation
B. Fat pad biopsy
C. Muscle biopsy
D. Endoscopy with gastric/small bowel biopsy
E. Left ventricular biopsy

Case 2
39 year-old male dog walker with a remote history of sinus thrombosis and family history of idiopathic venous thrombosis and multiple spontaneous abortions presents for evaluation. He is 6’9” with arm span/height >1, down-sloping palpebral fissures and malar hypoplasia without enophthalmos, retrognathia or high arched palate. He has a mild pectus excavatum, prominent apical impulse, normal S1 and S2 with mid-systolic click, scoliosis (~ 20°), with no joint hypermobility and negative wrist/thumb signs. Cardiac MRI demonstrates mitral valve prolapse, with a normal aortic root / aorta. Hypercoagulability workup is remarkable for an elevated Homocysteine level. What is the most likely diagnosis?
A. Marfan’s syndrome
B. Homocystinuria
C. Stickler Syndrome
D. Ehlers Danlos
E. Klinefelter Syndrome

Case 3
Drugs associated with these tracings include all of the following except…
a) Haldol
b) Ciprofloxacin
c) Methadone
d) Clarithromycin
e) Lidocaine
A 55 year old man is diagnosed with a right femoral vein DVT. No provoking factors can be elicited and he is up-to-date on cancer screening. He is started on Enoxaparin. Which of the following statements is correct:
A. Clinical trial data supports the use of long-term anticoagulation in this patient
B. Full body CT scan should be performed to rule out occult malignancy
C. This patient should continue to be treated with low molecular weight heparin as opposed to warfarin
D. Testing for anti-thrombin III deficiency should be performed immediately

A 28-year-old man presents with 3 weeks of easy bruising not associated with trauma, including epistaxis and gum bleeding. He is otherwise healthy and takes no medications. His white blood cell count is 7,000, hematocrit 45%, and platelet count 14,000. Blood smear is normal besides low platelets.
A. Plasmapheresis
B. Bone marrow biopsy
C. Corticosteroids
D. No treatment, spontaneous remission is common
E. Proceed directly to splenectomy

A 52 year old man presents with acute onset of left foot pain, numbness, and partial loss of motor function. His popliteal and pedal pulses are absent, and his foot is cool and mottled. ECG demonstrates atrial fibrillation. The appropriate next step is:
A. Perform duplex ultrasonographic imaging
B. IV heparin, urgent lower-extremity angiography, and plan for revascularization
C. Perform magnetic resonance angiography
D. Perform a transesophageal echocardiogram to look for a source of arterial embolus

82 man from Cape Cod presents with a history of coronary artery disease presents with weakness and shortness of breath. Temperature is 103. He has a mild transaminitis, and hematocrit is 21. There is no evidence of active bleeding. Direct Coombs test is negative. Bilirubin and LDH are elevated; haptoglobin is depressed. Smear is negative for schistocytes, but reveals rare intra-erythrocytic parasites (~1%). All of the following are appropriate next steps EXCEPT:
A. Test for Lyme disease
B. Test for anaplasma (serologies)
C. Treatment with oral atovaquone
D. Treatment with oral azithromycin
E. Treatment with oral doxycycline

In counseling a patient with newly diagnosed ovarian cancer, which of the following statements is correct?
A. The majority of patients with ovarian cancer do not have advanced disease at diagnosis
B. The majority of patients with ovarian cancer do not respond to chemotherapy
C. Inherited genetic syndromes account for about half of all cases of ovarian cancer, so it’s important that her family members be screened
D. It’s possible that her ovarian cancer and the colorectal cancer diagnosed in her 40 year old brother 2 years ago are due to a single mutation
E. Treatment of ovarian cancer always involves both surgery and radiation therapy, whereas chemotherapy is used in a subset of cases
a) The QRS is wide so this can’t be Mobitz I
b) This is complete heart block
c) The QRS is wide so this can’t be Mobitz II
d) This is Mobitz I
e) The level of heart block can’t be defined in this tracing

Case 10
At a routine visit, a 55 year-old describes an intermittent “crawling” sensation at night, which has become more frequent in the past year. She says it is difficult to describe, but feels like “something creeping under my skin that makes me want to move.”

Which of the following would be consistent with this syndrome?
A. Stereotyped, repetitive flexion of the limbs
B. Serum Ferritin > 600
C. Serum Ferritin < 30
D. Treatment involves the use of SSRIs
E. An abnormal neurologic examination

Case 11
A 44 year old man presents with acute abdominal pain. Abdominal CT demonstrates portal and splenic vein thromboses and splenomegaly. He is generally healthy. CBC is notable for a wbc 12,000, hemoglobin 56, and platelets 400,000. His O2 saturation is normal.

Which would you recommend at your initial evaluation?
A. IV heparin
B. ASA
C. Testing for the JAK2 mutation
D. Bone marrow biopsy
E. A, B and C

Case 12
A 30 year old woman presents with acute dysuria, urgency and frequency. She has been diagnosed with 5 UTI’s in the past 2 years. She last received TMP-SMX 5 weeks ago for similar symptoms. Appropriate next steps in management include:
A. Urine culture to assess for resistant organisms
B. Cystoscopy to assess for structural abnormalities
C. 5 day course of nitrofurantoin and counseling re: UTI prevention
D. CT to assess for pyelonephritis
E. Dipstick urinalysis to assess for white blood cells

Case 13
69 year-old retired counselor presents with complaints of hoarseness, tremor, temporal hair loss, weight gain, and new hyperglycemia. Blood pressure is 195/70. Dark terminal hairs are noted on her chin and abdomen. Dehydroepiandrosterone-S (DHEA-S) level was over 4 times the upper limit of normal. Which of the following laboratory findings is consistent with the clinical scenario?
A. Serum cortisol level suppresses with high dose dexamethasone
B. Thyroid stimulating hormone level is high
C. Testosterone level is normal
D. Serum cortisol level does not suppress with low dose dexamethasone
E. Plasma metanephrines are high

Case 14
A 32 year old woman with palpitations, lid lag, and an audible bruit has a serum TSH less than assay, and a free thyroxine level of 4.5. A diagnosis of Graves is confirmed by a radioiodine-uptake study. Which of the following is correct?
A. Antithyroid medications should not be prescribed, because recurrence rates with them are >90%
B. Treatments differ in initial response rates, but have similar relapse rates
C. Surgical thyroidectomy is the most common treatment because it has the lowest relapse rate
D. If the patient is pregnant, she cannot receive antithyroid treatment
E. Radioiodine treatment is intended to induce hypothyroidism
Case 15

All of the following should be avoided in this patient except...

a) Adenosine
b) Carotid sinus massage
c) Procainamide
d) Esmolol
e) Verapamil

Case 16

A 20-year-old man is evaluated for facial and lower-extremity edema of 1 week’s duration. For the past month, he has been fatigued. He is previously healthy and takes no medications. Physical examination is notable for a blood pressure of 90/55 mm Hg, periorbital edema and 2+ lower extremity edema. Laboratory data reveal a normal creatinine, a total cholesterol of 300 mg/dl, albumin of 2.9g/dl, normal complement levels and 3+ protein with oval fat bodies on urinalysis.

Which of the following is the most likely diagnosis?
A. Membranous nephropathy
B. Lupus nephritis
C. Constrictive pericarditis
D. Minimal change disease
E. Membranoproliferative glomerulonephritis

Case 17

A 38 year old woman is found to be hypertensive (160/90 mmHg) at her first prenatal visit. Which of the following anti-hypertensive medications would be absolutely CONTRAINDIATED:

A. Metoprolol
B. Methyl-dopa
C. Lisinopril
D. Labetalol

Case 18

A 78 year old man hospitalized for 6 days with community acquired pneumonia has new left leg swelling. He is otherwise asymptomatic. PMH is notable only for HTN. What is the appropriate test?

A. Venogram
B. Venous duplex
C. D-dimer
D. Ibuprofen and Ice
E. No further evaluation
**Case 19**

- A 39 year old woman presents with a ST-elevation myocardial infarction, managed with emergent catheterization and drug-eluting stent deployment. Six days later, she returns with recurrent ST elevations in the same distribution. Her husband reports that she has been compliant with her prescribed aspirin and clopidogrel. Admission laboratories are remarkable for a platelet count of 80,000, decreased from 290,000 at discharge. A platelet factor 4 antibody assay is sent. Which of the following medical interventions is appropriate?
  A. initiation of warfarin
  B. initiation of heparin
  C. discontinuation of clopidogrel and aspirin
  D. initiation of bivalirudin
  E. addition of cilostazol

**Case 20**

Which of the following statements regarding the possible cardiovascular effects of chemotherapy is true?

A. The cardiovascular sequelae of chemotherapy are always delayed; acute cardiovascular events near the time of infusion are unrelated to the chemotherapy
B. Cardiovascular side effects of anthracyclines are dose-dependent
C. Regardless of the chemotherapy regimen, the most common cardiovascular sequelae is LV systolic dysfunction
D. Risk of cardiotoxicity with a given chemotherapeutic is independent of exposure to other classes of chemotherapeutics
E. The only recognized cardiovascular side effects of chemotherapeutics are LV systolic dysfunction, heart failure, and hypotension

**Case 21**

Which of the following is true?

a) This is a supraventricular tachycardia because the intrinsicoid deflection is too long
b) This is a supraventricular tachycardia because it is irregular
c) This is a ventricular tachycardia because the intrinsicoid deflection is too long
d) This is a ventricular tachycardia because it is irregular
e) This is a ventricular tachycardia because of the AV relationship

**Case 22**

After beta blockade, the EKG is as shown. Which of the following is a reasonable management strategy for this patient?

A. Radiofrequency ablation should be considered
B. Drug loading with amiodarone should be considered
C. Drug loading with dofetilide
D. Electrical cardioversion, then discharge home with outpatient follow-up; no changes in medical regimen
E. Electrical cardioversion, then discharge home on flecainide