Case 1
A 23 year old graduate student comes to see his primary care physician with five days of worsening bloody diarrhea and fevers. He reports having eaten tacos at a local restaurant. His evaluation reveals petechiae on his legs, a creatinine of 3.0, hct 27 with schistocytes on smear and platelets of 47,000. His stool culture is most likely to show which organism?
A. Bacillus cereus
B. Salmonella spp.
C. E. coli
D. Staphylococcus aureus
E. Vibrio cholerae

Case 2
A 25 year old executive presents to his PCP with dysuria and penile discharge. He had unprotected sex with a female partner 4 days prior to presentation. He has no history of prior sexually transmitted infections. A DNA-based NAAT from a urine specimen is positive for N. gonorrhoeae.

According to the CDC’s 2010 guidelines for the management of gonoccal infections, which of the following is the most appropriate treatment regimen?
A. Ceftriaxone 1 gm IM
B. Cefpodoxime 250 mg PO BID x 5 days
C. Azithromycin 2 grams PO x 1
D. Cefpodoxime 400 mg po x 1 AND azithromycin 1 g PO x 1
E. Ciprofloxacin 500 mg po bid x 3 days

Case 3
A 32 year old electrician presents with weight loss and cough with bloody sputum. He has a history of a positive PPD for which he never received treatment. On exam, he appears comfortable. He is afebrile, BP 122/68 mmHg, pulse 89, room air oxygen saturation of 97%. His chest xray demonstrates a left upper lobe consolidation. The next step in his management should be:
A. Initiate therapy for CAP with levofloxacin 750 mg po qd
B. Admit to the hospital to negative airflow room out of concern for active pulmonary Mycobacterium tuberculosis
C. Initiate outpatient therapy with isoniazid for treatment of latent TB infection (LTBI)
D. Initiate outpatient therapy with INH/RIF/ETH/PZA while awaiting AFB results
E. Have patient fitted for N95 mask to wear at all times

Case 4
A 57 year old asymptomatic man has a screening exercise stress test prior to participating in a gym program. He has a history of hypertension and dyslipidemia. The stress test suggests some degree of ischemia, and you consider performing coronary angiography.

Which of the following is true regarding the potential findings?
A. PCI without stenting is indicated if study shows single vessel disease
B. PCI with stenting is indicated if study shows single vessel disease
C. PCI would be indicated if study shows multi-vessel disease
D. There is a survival benefit to the addition of clopidogrel
E. Blood pressure and lipid control would be preferred first-line therapy
Case 5
A 72 year old farmer presents to his PCP for a routine physical exam. He has a history of hypertension and diet-controlled DM. His pulse is 122, and a 12-lead ECG demonstrates new atrial fibrillation. He is started on coumadin and metoprolol ER 50 mg daily with reduction in his resting HR to 85. Which of the following is the most appropriate next step in his management?
A. Initiate amiodarone therapy
B. Admit to the hospital for d/c cardioversion
C. Make no changes
D. Add aspirin 81 mg daily
E. Refer for radiofrequency ablation

Case 6
A 32 year old pharmacist is found to have a 3x3 cm nodule in the left lobe of her thyroid gland on routine exam. She has no symptoms. Her serum thyrotropin stimulating hormone level is normal. The next step in her evaluation should be:
A. PET/CT scan of the neck
B. Fine needle aspiration
C. Empiric thyroxine therapy
D. Surgical neck exploration
E. Nuclear medicine scan of her thyroid

Case 7
A 21 year old teacher presents with pharyngitis, myalgias, and fatigue. She has a temperature of 38.9 deg C, 1 cm anterior cervical lymphadenopathy, a lightly erythematous eruption on her chest, and an erythematous posterior oropharynx with scattered small ulcers but no exudates. A monospot test is performed, and is negative. Which of the following tests is least likely to be helpful in making a diagnosis?
A. A repeat monospot in 1 week
B. An EBV VCA IgM
C. A EBV nuclear antigen
D. HIV Elisa
E. CMV IgM and IgG

Case 8
A 45 year old teacher presents complaining of severe left knee pain. She has a long history of rheumatoid arthritis which has been well controlled for several years on a multidrug regimen of methotrexate, hydroxychloroquine and a non-steroidal anti-inflammatory drug (NSAID). Which of the following symptoms suggests secondary degenerative joint disease (rather than rheumatoid arthritis) as a cause of her knee pain?
A. Prolonged morning stiffness
B. Pain that is exacerbated by activity
C. Increased fatigue
D. Multiple joint complaints
E. Weight loss

Case 9
An 82 y.o retired librarian with a history of CAD, prior ischemic stroke and hypertension presents to urgent care with 2-3 months of nausea, 16-lb weight loss and abdominal pain. The pain is most concentrated around her umbilicus, and it is worse with eating; it has gotten especially intense in the last day. She denies fevers, chills, BRBPR, recent NSAID use, or prior episodes of pain. Her abdominal exam was notable for minimal tenderness. Her labs are notable for an amylase of 233, BUN of 61, creatinine of 2.3 and a lactic acid of 4.5.

Case 9, con't
An abdominal CT was obtained, revealing the following:
Case 9 con’t
Which of the following is the most relevant risk factor for her current presentation?
A. Atherosclerosis
B. Recent hypotension with poor perfusion of watershed territory
C. Adhesions from prior abdominal surgery
D. Bowel colonization with *Clostridium difficile*
E. A colonic polyp acting as a “lead point”

Case 10
A 74 year old woman presents to her PCP with 11 months of dry cough and fatigue. She denies fevers, chills, reflux symptoms, or chest pain. She has never smoked, drinks 1 glass of wine daily, and has no known risk factors for M. tuberculosis. A course of azithromycin did not decreased her symptoms. Her chest xray is below:

Case 10 con’t
Which of the following is most true about her disease process?
A. A chest CT would likely show an endobronchial lesion
B. A PPD will be useful as a diagnostic test
C. Induced sputum for AFB and mycobacterial culture is indicated
D. Prednisone 60 mg qd is indicated
E. She is highly infectious

Case 11
30 year old lawyer presents to her PCP after her 65 year old father dies of a heart attack. She asks you what can be done to reduce her risk of also having a heart attack. Her blood pressure is 118/62. Her fasting glucose is 72, her HDL is 52 and her LDL is 134. She is a non-smoker.

You advise her to
A. Begin aspirin 325 mg daily
B. Begin aspirin 81 mg daily
C. Maintain a healthy diet and exercise 4-5 times a week
D. Begin simvastatin 10 mg daily
E. Begin beta-carotene supplements

Case 12
A 29 year old nurse comes to see his primary care physician because colleagues noted facial asymmetry. His symptoms began yesterday with a progressive left facial droop. He has no headaches, fevers, pain or rash. On exam, he cannot furrow his left eyebrow and has dysgeusia. His sensation to light touch, muscle strength in the extremities, deep tendon reflexes are intact. His head CT is normal.

Which therapy is not a reasonable option?
A. Doxycycline
B. Prednisone alone
C. Acyclovir and prednisone
D. Gabapentin
E. No drug therapy, close clinical follow-up

Case 13
52 year old lawyer is sent to his primary care doctor after a chest radiograph performed in the emergency room revealed a pulmonary nodule. He is a never-smoker, has no family history of lung cancer and has lived his entire life in New Hampshire.

He has a follow-up CT scan which is shown. The pattern of calcifications is described by the radiologist as “popcorn.”
Case 13 (cont.)

The most likely diagnosis is:
A. Carcinoid
B. Small cell lung cancer
C. Metastatic thyroid cancer
D. Bronchial cyst
E. Hamartoma

Case 14

A 26 year old graduate student sees her primary care doctor for advice on contraception. She does not smoke, has no history of clotting disorder, and no family history of breast cancer.

When counseling the patient about the risks and benefits of oral contraceptives, all of the following should be included EXCEPT:
A. Increased risk of new onset hypertension
B. Increased risk of cervical cancer with increased duration of use
C. Increased risk of venous thromboembolic disease
D. Decreased risk of endometrial cancer
E. Decreased risk of breast cancer

Case 15

A 22 year old law student presents with back pain for the last 2 years. It sometimes wakes him from sleep, and has prevented him from playing sports. He has also had recurrent “conjunctivitis” over the last year. More recently, he’s developed some chest wall pain. On exam, he has a positive Schober test and decreased chest wall expansion with inspiration.

Which of the following test, if positive, will be the most useful to confirm the diagnosis?
A. HLA-B27
B. Colonoscopy
C. L/S spine and sacral plain films
D. CRP
E. Skin biopsy

Case 16

A 68 year old retired secretary presents to her PCP with dyspnea on exertion. She is a former smoker of 50+ pack years and stopped smoking 10 years ago. She has a daily cough productive of a couple teaspoons of whitish phlegm. Her PCP is concerned she may have COPD.

The most appropriate way to diagnose her with COPD is:
A. Lung volumes that demonstrate TLC and RV which are >120% of predicted
B. Spirometry which reveals bronchodilator responsiveness (200cc and 12% change)
C. Spirometry which reveals an FEV1/FVC < 70% of predicted
D. Chest radiograph with hyperinflated lungs and flattened diaphragms
E. No further studies are required – the history alone is sufficient

Case 17

A 48 year old plumber presents to his PCP for a routine visit. His BMI is 34.6, and his BP is 142/88. On screening lab testing, an HA1C returns at 6.4.

Which of the following statements is correct?
A. He needs a confirmatory fasting blood sugar measurement
B. Metformin is as effective as lifestyle modification for the prevention of diabetes
C. Given his elevated BMI, exenatide is an appropriate first-line drug
D. Smoking cessation has no impact on his diabetes risk
E. His risk of developing diabetes is 25-50% in the next 5 years
Case 18

A 55 year old postal worker has a routine physical examination. He has mild hypertension and no symptoms. His physical exam is unremarkable. He asks about PSA testing. For this patient, all of the following are true, except:

A. He has a significant risk of a false positive PSA result even at this age
B. PSA is more sensitive than digital rectal exam
C. Alternative causes of an elevated PSA include prostatitis and BPH
D. Use of total PSA with percent free (unbound) PSA may improve sensitivity
E. A single PSA level below 4.0 ng/mL essentially rules out the possibility of prostate cancer

Case 19

A 56 year old physicist returns for follow-up with his primary care physician after a recent admission for decompensated heart failure. He has a history of coronary artery disease, s/p CABG 10 years prior, with ischemic cardiomyopathy. A recent echocardiogram showed his ejection fraction to be 30%. He describes mild dyspnea with climbing the stairs to his bedroom. He sleeps on two pillows at baseline and notes mildly increased leg swelling.

Which of his medications has NOT been shown to have a mortality benefit in patients with Class III heart failure?

A. Enalapril
B. Candesartan
C. Metoprolol
D. Digoxin
E. Spironolactone

Case 20

A 34 year old brick layer presents to urgent care with recurrent substernal chest pain and shortness of breath. He also noted increased fatigue and a ten pound unintentional weight loss. He has no past medical history, has been smoking 2 packs of cigarettes daily, and uses cocaine occasionally, most recently two weeks ago. His physical exam is unremarkable. A chest X-ray is obtained.

Which is the least likely diagnosis?

A. Thymoma
B. Extragonadal germ cell tumor
C. Hodgkin’s lymphoma
D. Fibrosing mediastinitis
E. Thyroid neoplasm

Case 21

A 54 year old physician presents to the Emergency Room with severe left flank pain. He is unable to remain still on the exam room table. His labs are all normal with the exception of his urinalysis which reveals blood. CT scan of the abdomen reveals a left ureteral stone.

Which one of the following conditions is the most likely type of kidney stone?

A. Calcium phosphate
B. Uric acid
C. Calcium oxalate
D. Struvite
E. Cystine

Case 22

A 32 year old journalist presents to her primary care physician. She is currently a one pack/day smoker and has been smoking for 15 years. She has decided she is ready to try to quit.

When working with her on smoking cessation, all the following would be true statements EXCEPT:

A. Smoking increases the rate of bone loss and is a risk factor for hip fracture in women
B. Quit rates are higher in patients who use varenicline when trying to stop smoking
C. Smoking cessation will decrease the risk of depression
D. All forms of nicotine replacement have been shown to be effective in improving rates of smoking cessation
E. Briefly advising her to quit smoking significantly increases the chances she will do so
Case 23
A 36 year old high school teacher presents with acute onset of shortness of breath and pleuritic chest pain. She is found to have a pulmonary embolism on chest CT scan. She had a history of deep venous thrombosis 5 years ago which was treated with warfarin for 6 months. She takes oral contraceptive pills and aspirin and has no drug allergies. She has one child and had two spontaneous abortions (at 14 and 17 weeks). In addition to initial low molecular weight heparin, what is the best treatment option?
A. Long-term anticoagulation with warfarin
B. Daily clopidogrel
C. Anticoagulation with warfarin for six months
D. Daily aspirin
E. Inferior vena cava filter

Case 24
A 25 year old architect who is 16 weeks pregnant presents to her primary care physician complaining of mild dysuria and yellowish vaginal discharge.

Her urinalysis is dipstick positive for white blood cells only. Her cervical swab returns positive for chlamydia. Which of the following statements is NOT true about empiric therapy:
A. Doxycycline is contraindicated in pregnancy
B. Azithromycin is an acceptable choice for therapy
C. Amoxicillin is an acceptable choice for therapy
D. She should be tested for additional sexually transmitted diseases including HIV and syphilis
E. There is minimal risk of transmission to partner or neonate

Case 25
A 25 year old landscaper presents to his PCP with fevers, headache and an erythematous rash in his groin following a tick bite. He went to a local ER 2 days earlier and was diagnosed with suspected Lyme disease. He was started on doxycycline 100 mg po bid. Blood work from that visit has now returned, and shows a Lyme Ab that is negative, a WBC of 2300, ALT of 121 and AST of 236, hematocrit of 42, and platelets of 98.

Which of the following statements is true?
A. The doxycycline should be continued for a total of 14 days
B. The doxycycline should be extended for a total of 28 days
C. Therapy should be changed to atovaquone and azithromycin
D. A blood smear should be ordered
E. The patient does not have acute Lyme disease

Case 26
A 22 year old software programmer presents to urgent care with 2 days of dysuria. She denies fever, back pain, fever, or other constitutional symptoms. On exam, she is afebrile and does not have CVA tenderness. An office urinalysis shows + leukocyte esterase, + nitrates, and trace blood.

Which of the following is NOT a recommended first-line therapy?
A. ciprofloxacin 250 mg po bid x 3 days
B. fosfomycin 3 gm po x 1 dose
C. pivmecillinam 400 mg po bid x 7 days
D. TMP-SMX DS 100 mg po bid x 3 days

Case 27
A 36 year old policeman presents to his PCP with intermittent loose stools with cramping abdominal pain for > 10 years. He reports fecal urgency and tenesmus. He does not wake at night with symptoms, and denies BRBPR, melena, new medications, weight change, rash, arthritis, or family history of inflammatory bowel disease.

An extensive evaluation including endoscopic gastroduodenoscopy, colonoscopy, tissue transglutaminase Ab, and TSH are normal.

Which of the following interventions has NOT been shown to be effective in similar patients?
A. Fluoxetine 20 mg qhs
B. Rifaximin 550 mg po TID x 14 days
C. Loperamide
D. Cognitive behavioral therapy
E. 5-HT4 receptor agonist tegaserod

Case 28
A 42 year old chef presents to her PCP with leg pain for the last 6 months. It is localized to the thighs, worse with weight bearing, and does not wake her from sleep. She denies fevers, weight loss, rash, joint discomfort, new medications or HMG Coa reductase inhibitor therapy. A physical exam is unremarkable. Lab testing is notable for calcium of 8.1 mg/dL, phosphate 0.8 mmol/L, Vitamin D of 4 mg/mL, and an alkaline phosphatase of 177 IU/L. Xrays of the extremities shows osteopenia and a bone density is notable for a T-score of -2.8.

What is the most appropriate next step?
A. Initiate calcium, vitamin D, and bisphosphonate therapy
B. Initiate vitamin D therapy at 50,000 IU per week x 12 weeks
C. Arrange for a bone biopsy
D. Perform skeletal survey to rule out multiple myeloma
E. Initiate therapy with a PTH analogue