

Internal medicine

1- The patient is a 35-year-old man with a complaint of dyspepsia. About 3 months ago, the patient developed community-acquired pneumonia and was treated with oral azithromycin. In the current tests, Helicobacter pylori stool antigen has been reported positive. Which of the following regimens do you recommend as the first line of treatment to eradicate Helicobacter pylori?

Clarithromycin, Amoxicillin, Pantoprazole

Clarithromycin, Amoxicillin, Metronidazole, Omeprazole

Bismuth subcitrate, Tetracycline, Metronidazole, Pantoprazole

Rifabutin, Amoxicillin, Omeprazole

2- A 32-year-old woman presented with a complaint of epigastric burning pain with early satiety starting about a month ago. The patient does not mention weight loss, nausea and vomiting, dysphagia, odynophagia, and evidence of gastrointestinal bleeding. There is no anemia in the lab tests, and the serology of Helicobacter pylori has also been reported as negative. She does not have a family history of gastrointestinal cancers, but she mentions a history of gastrointestinal bleeding caused by a gastric ulcer due to simultaneous use of high doses of indomethacin with aspirin in her mother. What is the next step?

Upper gastrointestinal endoscopy

Empirical treatment with Famotidine

Empirical treatment for Helicobacter pylori eradication

Urease Breath Test (UBT)

3- A 42-year-old woman has presented with a complaint of conjunctival jaundice and feeling weak since two weeks ago. On the abdominal physical examination, there are no abnormal findings. The abdominal ultrasound was reported normal. The results of the patient's initial tests are as follows:

ALT= 567 IU/L (NL<31), AST= 345 IU/L (NL<31), AlkP= 345 IU/L (NL<306)

Total Bilirubin= 8 mg/dl, Direct bilirubin= 4 mg/dl

Anti-HCV Ab= Negative, Anti-HAV IgM= Negative, HBsAg= Negative,

Anti-HBs Ab= Negative, Anti-HBc IgM= Positive, HBeAg= Negative, Anti-HBe Ab= Negative

Which one of the following diagnoses is relevant for the patient?

Acute hepatitis B

Hepatitis B, precore mutant

Hepatitis B carrier

Recovery from hepatitis B

4- A 56-year-old woman has been referred to the emergency room with a complaint of passing a large amount of bright red blood from the anus. The patient has no complaints of hematemesis and melena. The patient's systolic blood pressure is 85 mmHg and her heart rate is 115 beats per minute. Due to dizziness while sitting, it is not possible to check the orthostatic changes. The results of the tests are as follows:

Hb= 10.5 g/dl, PLT=198000, PTT= 32 sec, INR= 1.2, BUN= 72 mg/dl, Cr= 1.4 mg/dl

After stabilizing the patient's hemodynamic, which one of the following diagnostic procedures is the priority?

Upper gastrointestinal endoscopy

Colonoscopy

Rectosigmoidoscopy

CT angiography

5- A 75-year-old man with watery diarrhea since three days ago has been admitted to the emergency room. His blood pressure is 89/60 mmHg, his pulse rate is 95 per minute, and his fever is 37.8 degrees. What is the most suitable action for the patient after the initial fluid therapy?

Stool microbiology

Abdominal sonography

Stool Calprotectin

Colonoscopy and biopsy

6- A 42-year-old man presented with recurrent abdominal pain once a week, increased frequency of defecation, nocturnal diarrhea, and partial improvement of abdominal pain following defecation during the last 6 months. According to the Rome IV diagnostic criteria, the most probable diagnosis is Irritable Bowel Syndrome (IBS). Which of the following symptoms is NOT observed in IBS?

Abdominal pain

Increased frequency of defecation

Nocturnal diarrhea

Partial improvement of abdominal pain following defecation

7- A 67-year-old male patient presented with jaundice, weakness, and fatigue. The patient reports change of urine color to tea-like. The initial laboratory tests are as follows:

WBC: 5600/ μ l

Hb: 6 g/dl

PLT: 280,000/micL

MCV: 92 fl

Retic: 14%

Bilirubin total: 8 mg/dl

Bilirubin direct: 1 mg/dl

Which one of the following diseases is NOT relevant for the patient?

Autoimmune hemolytic anemia

Hemoglobinopathy

Vitamin B12 deficiency

G6PD deficiency

8- A 45-year-old patient with a long history of smoking presented with a headache. The laboratory tests show WBC: 13800/microL, Hb: 18 gr/dL, MCV: 90 fl, platelet: 560,000/miroL, and decreased erythropoietin (EPO) level. Which one of the following options should be recommended as the best possible next step?

JAK2 mutation

Arterial O2 saturation

Ferritin level

Carboxyhemoglobin level

9- Smoking, alcohol, and hot fluids are risk factors for

Adenocarcinoma of the Lung

Squamous cell carcinoma of the Lung

Adenocarcinoma of the Esophagus

Squamous cell carcinoma of the Esophagus

10- A 64-year-old man has been referred to a clinic for chronic fatigue for about four months. He does not have any other medical history. He has no fever. On examination, the spleen is enlarged and has extended to the umbilicus.

The patient's laboratory tests are as follows:

WBC= 34,000 / μ l

Hb= 13 g/dl

PLT= 450,000 / μ l

Peripheral blood smear shows PMN: 50%, monocyte: 5%, myelocyte: 2%, metamyelocyte: 2%, promyelocyte: 1%, basophil: 4%

Which of the following choices is the most probable diagnosis?

AML (acute myeloblastic leukemia)

CLL (chronic lymphocytic leukemia)

ALL (acute lymphocytic leukemia)

CML (chronic myelocytic leukemia)

11- A 30-year-old asymptomatic woman with a laboratory examination revealing thrombocytopenia was referred to a clinic. The past medical history is unremarkable. She does not use any medication and denies any recent infectious diseases.

The results of lab tests are as follows:

WBC= 8000 / μ l

HB= 14 g/dl

PLT= 60,000 / μ l

PBS has normal findings except for thrombocytopenia.

ANA, HCV Ab, and HIV Ab are negative.

ESR and LDH are normal.

What is the best suggestion for the next step?

Oral prednisolone

Platelet transfusion

IVIg

Following up the patient

12- A 46-year-old lady was referred to the emergency room with severe upper GI bleeding. 2 units of isogroup and cross-matched packed-cell were ordered. The patient complained of generalized pruritic rash and facial edema during receiving the second unit of packed-cell. The vital signs are stable.

Which one of the following treatments can be the best decision?

Continuation of transfusion and antihistamine administration

Temporarily stopping the transfusion followed by administering antihistamine

Temporarily stopping the transfusion followed by administering subcutaneous adrenalin

Continuation of transfusion and subcutaneous adrenalin administration

13- A 60-year-old male patient presented with back pain. The pain is aggravated by walking or standing and is relieved by sitting. The patient can walk much farther when leaning over a shopping cart. Which of the following is the likely diagnosis?

Osteoporosis

Spondylitis

Spinal canal stenosis

Lumbar disk disease

14- Ultrasound is helpful in diagnosing all of the following, EXCEPT

baker cyst

rotator cuff tears

avascular necrosis

bursitis and tendinitis

15- A 55-year-old woman presented with polyarthritis of the metacarpophalngeal and interphalyngeal joints 3 and 4 of both hands and swelling of the right knee. The test results show an increased ESR. Which of the following tests is recommended for a definite diagnosis?

Anti CCP Ab

Anti SCL70 Ab

Anti cardiolipin Ab

Anti Ds DNA Ab

16- A 26-year-old man presented with back pain, peripheral joint pain, and morning stiffness lasting for 45 minutes. There are skin lesions on the palms and sole of the foot and the evidence of conjunctivitis and uretheritis. What is the diagnosis?

Psoriatic arthritis

Reactive arthritis

Enteropathic arthritis

Ankylosing spondylitis

17- Which one of the following treatments is NOT suggested about adhesive capsulitis?

Naproxen

Local glucocorticoid injection

Physical therapy

Immobility

18- What is the most important cause of mortality in patients with lupus?

Valvular endocarditis

Lupus pneumonia

Restrictive pericarditis

Lupus nephritis

19- A 40-year-old woman presented with weight loss and palpitation. Recently she has had sinusitis; on physical examination, exophthalmia was observed, and she had a painful eye movement. According to the test results, what is the most probable diagnosis?

TSH= 0.01 mU/L (0.5-4.5)

T3= 360 ng/dl (70-180)

T4= 15 µg/dl (5.5-12.5)

ESR= 35 mm/h

thyroglobulin: detectable

Graves disease

Subacute thyroiditis

Acute thyroiditis

Factitious thyrotoxicosis

20- On physical examination of a patient, a 3-cm thyroid nodule was palpated. In laboratory test, TSH is 0.02mIU/L. What is the best next step?

Thyroid scan

Starting methimazole

Starting prednisolone

Thyroid nodule FNA

21- A 24-year-old woman, a known case of hypothyroidism, presented with 10 kg weight loss in 6 months. She has had nausea and vomiting and progressive fatigue. On physical examination, hyper pigmentation was observed in oral mucosa. What is the best next step?

Starting an anti-acid drug

Up-titration of levothyroxine dose

Checking 8 AM serum cortisol

Overnight dexamethasone suppression test

22- Which of the following is true in monitoring a diabetic patient?

In patients with good control of blood glucose, checking Hba1c is recommended 4 times a year.

In an elderly patient with micro and macro vascular complications, optimal daily glucose control is expected with the goal of time-in-range >70%.

Evaluation of serum lipids 1-2 times a year is recommended.

Treatment with antiplatelet drugs is recommended for all diabetic patients.

23- A 52-year-old diabetic man has presented with a history of cardiovascular disease and a BMI: 32, taking gliclazide 80 mg twice a day and metformin 1000 mg twice a day. He complains of gastrointestinal symptoms, such as bloating, abdominal distension, and intermittent diarrhea.

The test results are:

FBS: 142 mg/dl, HbA1c: 8%, BUN: 14 mg/dl, Cr: 0.9 mg/dl

Which of the following drugs is recommended as the next line of treatment?

Liraglutide

Empagliflozin

Pioglitazone

Linagliptin

24- All of the following options are effective in the prevention of osteoporosis, EXCEPT

Consumption of vitamin A

Weight bearing exercise

Consumption of vitamin D

Cessation of smoking

25- A 35-year-old woman with a recent delivery was referred to hospital with a lethargic condition. In the evaluation:

BP: 150/90 mmHg

U/A: urine RBC: 30-35, WBC: 2-3

PBS: fragmented RBC,

Hb: 10 g/dl, MCV: 101, PLT: 25000

Cr: 2.1 mg/dl

Which of the following is the best management for this patient?

Antibiotic therapy

Antihypertensive therapy

Platelet infusion

Plasmapheresis

26- All of the following crystals are affected by urine PH, EXCEPT

Uric acid

Calcium oxalate

Cystin

Calcium phosphate

27- A 30-year-old-man with no past medical history was referred to the clinic with the following laboratory tests:

Cr: 1 mg/dl

U/A: RBC: 30-35, WBC: 1-2, Blood +3, Protein +1

All of the following are suggested for this patient, EXCEPT

IgA Nephropathy

Minimal Change disease

Alport disease

Thin basement membrane disease

28- Eosinophils were seen in the urine test of a patient. All of the following diagnoses can be suggested for this patient, EXCEPT

small vessel vasculitis

urinary tract infection

allergic interstitial nephritis

cholesterol emboli

29- A 65-year-old man with a history of diabetes mellitus and hypertension since 5 years ago was admitted to the hospital with bilateral lower limbs edema and generalized bone pain. On retinal examination, there is no evidence of retinopathy. In sonography, both kidneys have normal size. In the laboratory tests:

U/A: protein: negative, WBC: 0-2, RBC: 1-2, Keton: negative

24h urine protein: 4.5 g

Hb: 10.8 g/l, Plt: 150,000 , WBC: 4000

Bun: 50 mg/dl, Cr: 2.6 mg/dl

Ca: 13 mg/dl

Which of the following is the best next step for this patient?

Renal vessel Doppler sonography

Kidney biopsy

Serum and urine protein electrophoresis

Serologic tests for ANCA

30- A 45-year-old woman presents to the emergency room with dyspnea and palpitation. She has no remarkable medical history. On physical examination, heart sound is irregular with III/VI diastolic soufflé in the apex. Which of the following is the most probable diagnosis?

Rheumatismal mitral valve stenosis

Congenital Aortic valve stenosis

PDA (patent ductus artresiosus) without pulmonary hypertension

Tricuspid valve regurgitation

31- A 60-year-old smoker man presents with palpitation. On physical examination, the heart rate is irregularly irregular with 140 beat per minute. The blood pressure is 170/90 mmHg, and echocardiography is normal. Which one of the following is the best treatment?

- Diltiazem
- Electrical cardiovergen
- Beta-blocker + aspirin
- Verapamil + warfarin

32- A 65-year-old hypertensive man presents for follow up visit. His hypertension has started since 3 years ago and now he is under treatment with Losartan, Amlodipine, Hydrochlorothiazide, and Bisoprolol. On physical examination, his systolic blood pressure is 125 mmHg and his diastolic blood pressure is 80 mmHg. The patient recently has experienced 2 episodes of gout arthritis, and his uric acid was 10 mg/dl in laboratory tests.

Which of the following drugs should be discontinued?

- Losartan
- Amlodipine
- Hydrochlorothiazide
- Bisoprolol

33- A 50-year-old woman with the history of breast cancer and radical mastectomy presents with dyspnea. On physical examination, jugular veins are bulged and heart sounds are muffled. In electrocardiogram, electrical alternance is observed.

Which of the following is the most useful for diagnosis?

- Echocardiography
- Coronary angiography
- Chest x ray
- Lung perfusion scan

34- A 43-year-old man, experiences severe chest pain after intensive physical activity. In spite of resting, pain is not relieved. The patient was referred to the hospital, EKG in the admission reveals 5 mm ST elevation in inferior leads. Streptokinase was administered for the patient. After 90 minutes, and next to the streptokinase administration, the patient still experiences severe chest pain and ST elevation persists.

Which one of the following approaches is the best next step?

Transfer of the patient to a more sophisticated hospital for emergency angiography and rescue PCI

Administration of half dose of Streptokinase

Administration of full dose of Tenekteplase

No further intervention is required.

35- Which one of the following can increase the oxygen affinity of hemoglobin?

Acidosis

Fever

Increased paco₂

Decreased 2,3 DPG

36- A 35-year-old woman was referred to the emergency department with dyspnea. Right sided pleural effusion was seen in her chest x-ray. The glucose level in pleural fluid was 50mg/dl. Which one of the following diagnoses is less probable?

Pleural empyema

Pulmonary thromboembolism

Tuberculosis pleurisy

Lupus pleuritis

37- A 35-year-old man presented with small volume hemoptysis for the first time. He and his family had no abnormal medical history. Which paraclinical test is NOT necessary for the first step?

Arterial Blood Gas

Chest x-ray

Serum creatinin level

Urine analysis

38- A 75-year-old male patient with a known COPD case is referred to the respiratory clinic for the follow-up treatment. He mentions that he suffers from shortness of breath during excessive activities (walking uphill and on steep surfaces). In the last 1 year, he has been hospitalized once due to COPD exacerbation.

Based on GOLD staging, the patient is placed in group.

A (low symptom, low risk)

B (high symptom, low risk)

C (low symptom, high risk)

D (high symptom, high risk)

39- Which of the following is contraindicated in pregnant asthma patients?

Budesonide (Inhaled Corticosteroid)

Omalizumab (Anti IgE)

Albuterol (B2 -Agonist)

Montelukast (Anti Leukotriene)

40- A 77-year-old woman with lung cancer is undergoing chemotherapy. She is bedridden because of Alzheimer's. Which one of the following drugs can be prescribed for thromboembolism prophylaxis?

Aspirin

Heparin

Enoxaparin

Warfarin

Surgery

41- Which one of the following markers is used to check the long-term nutritional status?

Albumin

Prealbumin

CRP

Transferrin

42- Systemic vascular resistance decreases in

hypovolemic shock

cardiogenic shock

septic shock

cardiac tamponade

43- A 68-year-old diabetic man presented with swelling and severe pain in the right groin. On examination, extensive edema is seen more than the area of erythema. The skin of the area is numb and some blisters are visible. The lesion has an unpleasant smell. What is the most appropriate treatment?

Blood sugar control and cold compress

Antibiotic with gram positive coverage and drainage under ultrasound guidance

Antibiotics with gram-positive and anaerobic coverage

Broad spectrum antibiotic and extensive debridement

44- A 35-year-old motorcyclist hit an obstacle at a high speed and was brought to the emergency department. He is alert and awake, and he complains of severe back pain. The patient's vital signs are stable. On examination, there is a bruise on the left side of the chest and severe tenderness on the 2nd and 3rd ribs. In the CXR, fracture of the 2nd and 3rd ribs is seen, and the width of the mediastinum is about 10 cm.

What is the most appropriate next step in the management of this patient?

Chest CT scan with contrast

Diagnostic laparoscopy

Diagnostic thoracoscopy

Transferring the patient to the ward and monitoring him

45- A 35-year-old man has been referred to the emergency room with a penetrating trauma caused by a firearm bullet. The point of entry is one centimeter below the edge of the rib behind the right hemithorax. The exit point is one centimeter above the umbilicus.

Blood pressure: 90/70 mmHg and pulse rate: 110 per minute.

Which of the following is necessary for this patient?

Resuscitation and transferring to the operating room

Diagnostic peritoneal lavage

Abdominal and pelvic ultrasound

Abdominal and pelvic CT scan

46- A 38-year-old man has presented with groin pain and swelling since yesterday. Swelling does not disappear while lying down. The patient had a history of similar swelling, which was resolved by lying down and resting. On examination, vital signs and body temperature are normal, and a painful protrusion is seen in the groin without signs of local inflammation. Lab tests are normal. What is the appropriate course of action for this patient?

Attempting to reduce, and if successful, discharging from the emergency department

Attempting to reduce, and if successful, hospitalization and early surgery

Emergency surgery without attempting to reduce

Abdominal and pelvic CT to check the site of swelling

47- A 30-year-old woman is brought to the emergency room 5 hours after swallowing a glass of liquid plumr with an attempt to commit suicide. Vital signs are stable. The patient complains of the burning of the mouth and throat.

What is the most appropriate approach?

NG-Tube placement

Laparotomy

Giving milk or egg white

Endoscopy

48- A 60-year-old man with a known history of duodenal ulcer presented with symptoms of gastric outlet obstruction, including nausea and vomiting, within the past 10 days. The patient discontinued Pantoprazol without his physician's permission a month ago.

What is the first appropriate action?

- Enterectomy surgery to remove obstruction
- NG tube placement and administration of normal saline
- Endoscopic dilatation of obstruction with a balloon
- Acid reducing surgery to heal the wound

49- A patient with a history of laparotomy is now admitted with a diagnosis of intestinal obstruction. Which one of the following conditions makes you worried more about the occurrence of "intestinal ischemia"?

- Abdominal colic pain
- Dull pain around the umbilicus
- Localized tenderness in the abdomen
- Bilious vomiting

50- A 47-year-old man with an abscess caused by appendicitis underwent drainage and antibiotic treatment, and he was discharged from the hospital with a good general condition. The patient asks for your advice regarding the continuation of the treatment. Which one of the following could be the best suggestion for him?

- Appendectomy surgery as soon as possible
- Continuation of oral antibiotics for three weeks
- Appendectomy surgery after three weeks
- Performing colonoscopy and making decisions based on it

51- A 67-year-old man presented with severe abdominal pain in the LLQ (Left Lower Quadrant). On examination, he has severe pain and tenderness in the LLQ region. The rest of the abdomen is soft and non-tender. The CT scan showed acute sigmoid diverticulitis. Which one of the following is the best action at this point?

Starting a high-fiber diet

Hospitalization and administration of intravenous antibiotics

Emergency colonoscopy

Emergency laparotomy

52- Which one of the following large intestine tumors can remain asymptomatic until the advanced stages?

Right colon tumor

Descending colon tumor

Sigmoid tumor

Rectum tumor

53- A 37-year-old woman has presented with right upper quadrant pain, nausea, and vomiting since 12 hours ago. On examination, she has mild fever and tenderness in the right upper quadrant region. she does not have jaundice. Sludge, gallstones, and thickening of the gallbladder wall are evident in the ultrasound. Which one of the following could be the most appropriate action?

Laparoscopic cholecystectomy in the first few days

Emergency cholecystostomy

Diagnostic and therapeutic ERCP

IV fluid and pain killer until disappearance of the symptoms, and then cholecystectomy after 2 weeks.

54- A 57-year-old man was admitted with epigastric pain and diagnosed with pancreatitis. Which of the following options is correct in the management of this patient?

In case of oral intolerance, feeding with a nasojejun tube is possible.

Somatostatin analog reduces pancreatic secretion and improves the disease.

Empiric antibiotics are started as soon as the diagnosis is made.

Surgical debridement of necrotic tissue is often necessary.

55- A 40-year-old woman has presented with a complaint of the left breast lesion since 3 months ago, which was reported to be BIRADS 4a in the ultrasound. In the axilla region, there was no evidence in favor of lymph node involvement. The size of the lesion was 2 cm and it was firm on examination.

Which of the following would you recommend as the next step in managing this lesion?

Referring to a surgeon to remove the lesion with margin

Following up with the ultrasound 6 months later

Referring for core needle biopsy

Referring to the oncology clinic to start chemotherapy

56- A 26-year-old woman with a 2 cm thyroid nodule undergoes FNA whose result is reported as AUS (atypical cells of undetermined significance). After 2 months, FNA was repeated, and in pathology, the adenomatoid nodule is reported. The patient has no symptoms and the size of the nodule has not changed.

Which one of the following do you recommend to the patient?

No other action is required

Repeating the ultrasound 12 months later

Lobectomy and frozen section

Total thyroidectomy

57- A 36-year-old man with vague abdominal pain underwent an ultrasound, and an 8-cm cyst containing several other small cysts was seen in the right lobe of the liver.

What is the next appropriate action?

Repeating the ultrasound 3 months later

Performing a serologic test

Cyst aspiration with a needle

Performing a needle biopsy

58- A 55-year-old man underwent splenectomy two weeks ago due to abdominal trauma and was discharged in good general condition. Now the CBC test has been done and the platelet count is 900,000 per mm³.

Which of the following is the most appropriate action?

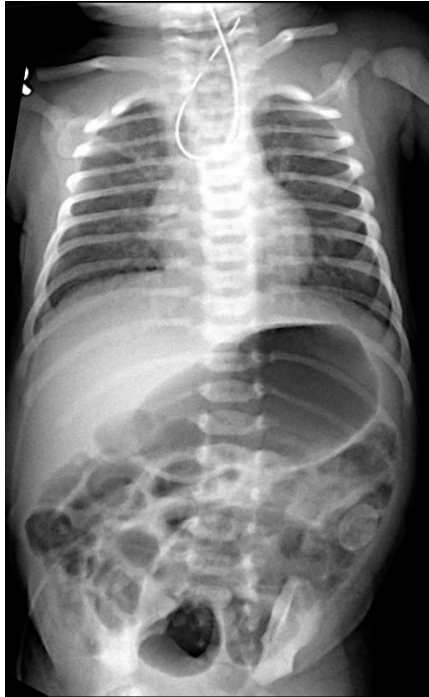
Test repetition after three months

Examination for the presence of the accessory spleen

Warfarin prescription

Aspirin prescription

59- A one-day-old neonate experiences choking and regurgitation as soon as he starts feeding with breast milk. According to the mother, she had polyhydramnios during pregnancy. You can see the CXR after resuscitation, NG, and Foley placement. Which one of the following diagnoses is suitable for him?



Duodenal atresia

Esophageal atresia

Pyloric hypertrophic stenosis

Bilateral choanal atresia

60- A 65-year-old smoker complains of lower limb pain while walking. In the history and on examination, the hair of both lower legs and the muscle volume have decreased. All of the following options are correct in the management of this patient EXCEPT for:

Starting of antiplatelet therapy

Giving advice to quit smoking and starting proper physical activities

Checking for dyslipidemia and diabetes and, if needed, appropriate treatment

Performing femoral vessels revascularization with the endovascular technique

Pediatric

61- A 6-year-old female presented with fever and fine diffuse erythematous macular-papular rash. Swollen erythematous tonsils, prominent tongue papilla, and petechiae on soft palate are detected on physical examination. Which one of the following treatments is recommended?

Co-trimoxazole

Cefixim

Amoxicillin

Ciprofloxacin

62- A 12-month-old infant is referred to the clinic with pruritic rashes with a prodroma of fever and anorexia from the previous day. Red papules, teardrop vesicles, and ulcerated crust are seen on physical examination. The accumulation of rashes is more prominent on trunk and face. Which of the following is the most probable diagnosis?

Varicella Zoster

Herpes Simplex

Coxsackie A

Roseola Infantum

63- A 5-day-old term male newborn is referred to the clinic with periumbilical erythema without any distribution. He is afebrile, and neonatal reflexes are normal. Which one of the following actions should be made based on the MANA protocol?

Emergent referring to the nearest regional hospital

Intramuscular injection of ceftriaxone and discharging with warning signs

Using local mupirocin twice a day for 7 days

Cleaning of the umbilicus with water while changing diaper

64- A 5-year-old male is referred to the clinic with prolonged fever, weight loss, and drenching night sweat from a month ago. Physical examination reveals bilateral non-tender submandibular lymphadenopathy with a size of 20×20 mm. CBC is available below:

WBC= $5000/\text{mm}^3$ (Neutrophil= 60%, Lymph= 40%)

RBC= $3.9 \times 10^6/\text{mm}^3$

Hb= 11.8 g/dl

Hct= 36%

MCV= 76 fl

MCH= 28 pg

Plt= $225000/\text{mm}^3$

What is the best next assessment for this patient?

Bone marrow aspiration

Chest X ray

Cervical sonography

Cervical mass biopsy

65- A one-year-old female is referred to the clinic due to pallor. There is a history of inadequate utilization of supplements. Vital signs are stable and there is no hepatosplenomegaly on physical examination. Here is her CBC result:

WBC= 8000/mm³

PMN= 40%

Lymph= 60%

RBC= 2.0×10⁶/mm³

Hb= 6 g/dl

Hct= 16%

MCV= 70 fl

Plt= 520,000/mm³

RDW= 16

Which one of the following prescriptions is the best treatment plan?

Packed cell with a dose of 5 cc/kg

Recombinant Erythropoietin

Oral Iron with a therapeutic dose

Therapeutic dose of oral Folic Acid

66- The dipstick test which was done for a 16-year-old, tall and thin, healthy male who was referred to the clinic at 5 pm showed 2+ proteinuria. His early morning recombinant urine sample was tested for proteinuria, which was negative, but 600 mg protein in 24 hours urine collection was detected. What is the most likely diagnosis?

Nephrotic syndrome

Nephritic syndrome

Transient proteinuria

Orthostatic proteinuria

67- Which one of the following findings favors transient synovitis in differentiation between bacterial infection and transient synovitis of the hip joint?

Severe pain and tenderness of the joint

Leukocytosis in lab data

Elevated joint fluid WBC count

Afebrile on physical examination

68- An 8-year-old male is referred to the emergency department with loss of consciousness. About 30 minutes ago, after having food at the restaurant, he developed skin pain, pruritus and redness in addition to repetitive vomiting, and then he became unconscious. Physical examination reveals obvious flushing. The pulse rate is 160/min; the respiratory rate is 41/min, and the systolic blood pressure is 80 mmHg. What is the most probable diagnosis?

Anaphylaxis

Status epilepticus

Food poisoning

Syncope

69- A 5-month-old female is referred to the clinic with eczematous diaper eruption composed of ill-defined, scaly, red patches and plaques from 3 weeks ago. Which of the following is the least preferred measure in this patient?

Diary product avoidance by her mother

Applying an antifungal ointment

Applying a steroid ointment

Prescribing oral antihistamine

70- A 5-year-old child with persistent seizures starting from 15 minutes ago was admitted to the emergency room. After the respiratory assessment, airway establishment, cardiac monitoring, and oxygen implantation, venous access was not possible. Which of the following options is not recommended at the next step of treatment?

Rectal diazepam

Intranasal Lorazepam

Buccal Midazolam

Intramuscular Phenobarbital

71- A 6-year-old female presented with fever and arthralgia from 3 days ago, which started from left knee, and on the next day after relieving the knee symptom, she developed right ankle pain and swelling. Physical examination revealed a body temperature of 39.5°C and obvious arthritis in her right ankle. Increased ESR and CRP were detected. Which of the following is the correct diagnosis?

Juvenile Idiopathic Arthritis

Systemic Lupus Erythematosus

Kawasaki disease

Rheumatic fever

72- A 7-year-old male was admitted to the emergency room due to polyuria, polydypsia and weight loss starting from a week ago. Lab data are as fallows:

PH= 7.15

HCO₃= 7 mEq/l

PCO₂ = 17 mmHg

BS= 450 mg/dl

K= 4.2 mEq/l

Ca= 8.9 mg/dl

He was visited by the emergency room physician and was administered Bicarbonate. Which of the following is the most probable complication?

Pulmonary edema

Cerebral edema

Hypercalcemia

Hyperkalemia

73- A healthy three-year-old child presented with fever, tachycardia, tachypnea, and cyanosis from about 4 days ago. Normal heart size and bilateral pulmonary infiltration are seen in the chest X-ray. ECG is normal. Which of the following is the most likely diagnosis based on the following tests?

PH= 7.14

PCO₂= 55 mmHg

PaO₂= 40 mmHg

HCO₃= 23 mEq/l

Troponin= normal

WBC= 16200/mm³ (Neut= 68%, Lymph= 28%)

Hb= 12.5 g/dl

Bronchiolitis

Pertussis

Acute Respiratory Distress Syndrome

Acute myocarditis

74- A female term newborn received OPV vaccine before discharge from the hospital. After 20 minutes, she was referred to the nursery because of vomiting. What should be done for poliovirus vaccination?

Repeating OPV is not necessary.

She should receive another dose of OPV.

IPV should be inoculated instead of OPV.

IPV should be inoculated in addition to OPV.

75- A 2-day-old neonate is referred to the emergency room with recurrent bilious vomiting without meconium defecation. Multiple highly dilated intestinal loops are visible in the plain abdominal X-ray. All of the following measurs should be considered in differential diagnosis EXCEPT for

Meconium Ileus

Malrotation

Jejunal Atresia

Duodenal Atresia

76- A 2-year-old male is admitted to the ICU with the diagnosis of pneumonia and chronic diarrhea. He is the first child of non-consanguineous parents and there is a history of hospital admission with purulent otorrhea and pneumonia when he was 2 months old and with meningitis when he was 6 months of age. His weight is 7 kilograms. There is thrush in his mouth and the tonsils are not visible. Which one of the following diagnoses is more compatible with his history?

Severe Combined Immunodeficiency (SCID)

X-linked Agammaglobulinemia (XLA)

Chronic Granulomatous Disease (CGD)

Cystic fibrosis (CF)

77- A 4-year-old child presented with fever from a week ago. On physical examination, bilateral non-suppurative conjunctivitis, strawberry tongue, posterior cervical lymphadenopathy, polymorphous rash and periungual desquamation are found. Which of the following is the therapeutic choice based on the most probable diagnosis?

Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)

Systemic corticosteroid

Intravenous Immunoglobulin (IVIG)

Conservative treatment

78- An 11-month-old infant with a history of diarrhea and oliguria from 2 days ago is admitted to the emergency room. Restlessness and irritability are found on physical examination. He looks thirsty and oral mucous membrane is dry. He has tachycardia with palpable peripheral pulses. Skin turgor slightly decreased and anterior fontanelle is relatively depressed. What is the degree of dehydration in percent?

5

6

10

15

79- A 15-month-old female is referred to the clinic due to inadequate weight gain. She is still unable to walk independently. Enlarged anterior fontanel and thickening of the wrists are found on physical examination. What is the most probable diagnosis according to the following Lab data?

Calcium: Normal

Phosphate: ↓

Phosphatase Alkaline: ↑↑

25(OH) D: ↓

Hyperparathyroidism

Hypophosphatemic rickets

Nutritional rickets

Pseudohypoparathyroidism

80- A 25-day-old newborn baby is referred to the clinic due to prolonged jaundice. Cataracts and hepatosplenomegaly are seen on physical examination. Increased liver transaminases and hypoglycemia are reported. Which one of the following metabolic paths is affected due to the patient's enzyme defect?

Carbohydrates

Aminoacids

Fatty acids

Vitamins

Obstetrics and gynecology

81- Which one of the ovulation confirmation methods can prospectively predict the occurrence of ovulation?

Measurement of basal body temperature (BBT)

Use of urine LH kit

Serum progesterone level in mid-luteal phase

Luteal phase endometrial biopsy

82- A 45-year-old woman complaining of irregular uterine bleeding underwent endometrial biopsy, resulting in proliferative endometrium. If no structural disorder is observed in the ultrasound of the uterus, all of the following options are suitable for her long-term treatment EXCEPT for:

Tranexamic acid

Nonsteroidal anti-inflammatory drugs (NSAIDs)

Oral progestin

Oral estrogen only

83- A 60-year-old menopausal woman was referred to you for a general health check-up. She is a smoker and has been menopausal for about ten years. She does not complain of hot flash. She has no history of any particular disease. Which intervention do you suggest for her?

Hormone therapy with the primary goal of preventing heart diseases

Hormone therapy with the primary goal of preventing osteoporosis

Screening for bone density

Initiation of phytoestrogenic compounds

84- All of the following options are correct about episiotomy EXCEPT for

It is done routinely in the first delivery

It increases the risk of the 3rd and 4th degree tears of the perineum

It is indicated in instrumental delivery and prolonged descent

It is done after the complete descent of the fetus

85- A 22-year-old woman presented with fever, chills, lethargy, vesicular genital lesions and painful inguinal lymphadenopathy. What is the most probable diagnosis?

Chancroid

Lymphogranuloma Venereum

Syphilis

Herpes simplex

86- A 65-year-old female patient was referred to a clinic with a complaint of burning, itching, and dryness of the vulvovaginal area. On the examination, the loss of the vaginal rugae, the shiny perineum, and no abnormal secretions or other lesions were seen. Which one is the right treatment?

Topical betamethasone

Metronidazole vaginal gel

Topical estrogen

Oral estrogen

87- Which of the following is correct about the HPV vaccine?

There is no need for cervical cancer screening after vaccination.

Previous exposure to HPV is a contraindication of vaccination.

Vaccination is safe in breastfeeding.

Routine vaccination is recommended from the age of 7 years.

88- A pregnant woman whose gestational age is 36 weeks has been referred to the emergency ward with rupture of membrane from one week ago, a fever of 39°C, tachycardia, and leukocytosis. She does not have any purulent discharge on the vaginal examination. Which of the following is correct about patient's management?

Starting intravenous antibiotics and induction of labor

Starting intravenous antibiotics and emergent cesarean delivery

Emergent cesarean delivery and starting intravenous antibiotics immediately after delivery

Starting intravenous antibiotics for 48 hours, then induction of labor

89- An 18-week pregnant woman has been referred to a clinic with a report of estimated fetal weight less than 3% for a given gestational age in sonography. All of the following options are correct in the patient's management **EXCEPT** for

- amniocentesis and karyotype
- anomaly scan sonography
- amniocentesis and examination for infection
- recommendation to increase mother's calory intake

90- A 30 year old gravid 2 para 1 pregnant woman with a previous normal vaginal delivery was referred to an emergency triage, with a gestational age of 37w+1d. In the ultrasound, placenta previa was reported. What is the next course of action for her?

- Termination of pregnancy by cesarean section
- Betamethasone prescription then cesarean section
- Termination of pregnancy by vaginal delivery
- Continuation of routine prenatal care up to 39 weeks

91- The vaginal artery originates from artery.

- hypogastric
- aorta
- ovarian
- external iliac

92- Which of the following is an absolute contraindication of using Methotrexate in the treatment of ectopic pregnancy?

- Gestational sac larger than 3.5 cm
- Presence of fetal heartbeat in ultrasound
- Breastfeeding
- Presence of fluid in the peritoneum

93- In which of the following conditions the mother is allowed to breastfeed?

- HIV infection
- Neonatal galactosemia
- Cured tuberculosis
- Use of amphetamine

94- Which of the following is contraindicated in the treatment of genital wart during pregnancy?

- Trichloroacetic acid
- Cryotherapy
- Podophyllin
- Laser ablation

95- After vaginal delivery by forceps, a 25-year-old woman has heavy and fresh bleeding. On examination, the uterus is contracted. What is the most probable cause of bleeding?

Uterine atony

Coagulative disorders

Laceration of the birth canal

Retained placenta

96- Which change of the thyroid function test is normal in a pregnant woman?

Decreasing total T3

Increasing TSH

Decreasing Thyroxine-binding globulin

Increasing total T4

Neurology

97- Which of the following headache disorders is more prevalent among males compared to females?

Cluster

Migraine

Idiopathic intracranial hypertension

Tension

98- Hyperthermia is seen in which of the following causes of coma?

Opium toxicity

Overdose with anticholinergic drugs

Alcohol toxicity

Overdose with Barbiturates

99- A 75-years-old male presented to the emergency ward with right side hemiparalysis since one hour ago. Which symptom is more probable in intracranial hemorrhage in comparison to ischemic stroke?

Loss of consciousness

Headache and vomiting

Aphasia

Seizure

100- A 65-years-old lady presented with complains of progressive paresthesia in distal lower limbs, reaching below the knees since last year. She has been diagnosed with hypertension and diabetes since 8 years ago. Neurologic examination shows intact cranial nerve and motor forces. Deep tendon reflexes are decreased in both upper limb and absent in lower limbs. With regard to the most possible diagnosis, which statement is TRUE?

Autonomic involvement is not seen.

Abnormal position sense and sensory ataxia is one of the disease symptoms.

Muscle atrophy in examination is against the diagnosis.

Babinski sign is frequently detected.

101- Which of the following statements is TRUE about absence seizure?

Consciousness is maintained during seizure.

Loss of limb control occurs during seizure.

Long postictal phase is a feature of this seizure.

Frequent blinking, automatism, and fine limb movements can be observed during the seizure.

102- A 25-years-old young lady presented with complains of unilateral blurred vision since last week. She has experienced shock-like sensation in limbs with neck flexion. Regarding the most possible diagnosis, which of the following tests is helpful to confirm the diagnosis?

Electrodiagnostic study (EMG-NCS)

Electroencephalography (EEG)

Cerebrospinal fluid (CSF) examination

Brain CT-scan

Infectious

103- A 35-year-old male patient has referred to a clinic with productive cough and dyspnea along with fever and chill. On examination, T=40°C, BP=110/70mmHg, and RR=40/min are noted, and consolidation in the right lower lobe has been seen in the spiral chest CT. Which of the following is the best treatment for this patient?

Outpatient therapy with azitromycine

Inpatient therapy in the ward with ceftioxon and azithromycine

Inpatient therapy in the ICU with ceftioxon and azithromycine

Inpatient therapy in the ward with levofloxacin and ceftioxon

104- Which complication of shigella is more seen in malnourished and HIV patients?

- Toxic megacolon
- Bacteremia
- Intestinal perforation
- Metabolic abnormalities such as hypoglycemia

105- A 75-year-old patient has been hospitalized with a recent stroke followed by a high fever, cough, malodor sputum, and abscess in the chest CT. Ampicillibactam has been prescribed for the patient, and given a partial improvement in his clinical symptoms, coamoxiclavate was administered after two weeks. Which of the following is the best decision about the duration of treatment with coamoxiclavate?

- Up to 4 weeks
- Until the cure of radiologic findings
- Until the normalization of ESR and CRP
- Until the cure of clinical symptoms

106- Which one of the following options suggest the possibility of concurrent encephalitis in a patient with acute viral meningitis?

- Photophobia
- Painfull eye movement
- Seizure
- Neck stiffness

107- Which one of the bite cases should be followed by antibiotic prophylaxis in all cases even if the wound is not infected?

Dog

Human

Cat

Rodent

108- A pregnant woman with the gestational age of 8 weeks has been referred to a clinic 5 days after being exposed to a chickenpox patient. VZV serology is negative. Which of the following is the most appropriate preventive measure?

Varicella vaccine

VZV IG

Intravenous acyclovir

Oral valacyclovir

Radiology

109- A 32-years-old woman with a family history of breast cancer in her 38-years-old sister was referred for breast-cancer screening. Based on the guidelines, what is the appropriate action for her?

Annual mammography

Initial mammography and follow-up after 5 years

Starting mammography at 35-year-old

starting mammography at 40-year-old

110- Which of followings is categorized as stress fracture?

Boxer fracture

Jones fracture

March fracture

Smith fracture

111- A pregnant patient was referred to an imaging center for a brain MRI. Which of the following is true?

MRI is contraindicated in pregnancy.

MRI is contraindicated in only first trimester.

MRI is safe without contrast.

It should be performed with contrast.

112- In a triple-phase abdominal CT Scan from a woman with a history of colon carcinoma, a lesion with 45 mm in diameter was observed in the right liver lobe. The characteristics of the lesion are:

Phase one: Hypodensity in pre-contrast phase,

Phase two: Nodular peripheral inward enhancement in arterial phase,

Phase three: Homogeneity and mild density than the rest of the liver in a delayed 10-minute phase.

What is your diagnosis?

Cavernous hemangioma

Metastasis

Hepatocellular carcinoma

Adenoma

113- In standard chest X-rays, all of the followings are correct, EXCEPT

- observing spinal vertebra through the heart
- observing posterior arches of at least six ribs
- spinous process, equidistant between the medial end of both clavicles
- "S" shape clavicle with a superimposed medial end on 3-4 ribs

114- A 60-years-old woman presented with a history of lower ribs trauma. The plain abdominal X-ray showed a round rim-like calcified lesion with 50 mm in diameter was seen in the pelvic cavity. What is your recommendation?

- An immediate referral to a surgeon
- Abdominal-pelvic sonography
- Triple-phase abdominal-pelvic CT Scan
- Radionuclide Scan

Psychiatry

115- A 22-year-old girl experiences either extremely positive feelings or extremely negative feelings toward her friend, often for no apparent reason. She also experiences deep depression and sometimes engages in self-injurious behaviour. Which personality disorder describes her best?

- Histrionic
- Borderline
- Schizotypal
- Dependent

116- An 18-year-old girl has suffered from anxiety, hopelessness, restlessness, insomnia, and irritability over the past week due to failure in the entrance exam of medical universities. This suffering has led to significant interpersonal and functional impairment. There are no other psychiatric symptoms, medical diseases, or substance abuse. What is the most probable diagnosis?

Generalized anxiety disorder

Major depressive disorder

It is a normal reaction

Adjustment disorder

117- In an interview with a patient, you ask him, "How long have you been hospitalized?", and he responds, "hospitalized, hospitalized, hospitalized".

What is the name of the patient's symptom?

Perseveration

Neologism

Echolalia

Punning

118- A 42-year-old woman complains of retrosternal pain, dizziness, and a feeling of heaviness in her legs. The symptoms have started since about six months ago, following the loss of her job. Despite the normality of numerous cardiac, neurological and internal diagnostic investigations, the patient still has severe and chronic anxiety about her health condition and continues visiting different specialists.

Which of the following is the most accurate diagnosis for her?

Somatic symptom disorder

Illness anxiety disorder

Factitious disorder

Conversion disorder

119- A psychiatric consultation is requested for an 85-year-old patient with advanced esophageal cancer, who is admitted to the gastroenterology department and exhibits restlessness. The patient is currently drowsy and disoriented to time and place. His companion reports that he experienced anxiety, visual hallucinations, and insomnia the previous night. All of the following options are recommended for the patient, EXCEPT for:

- Repeatedly reminding the patient of time and place
- Having a familiar companion
- Physical restraint of the patient during agitation
- Prescribing a low dose of haloperidol to the patient in case of agitation

120- Which option is part of the DSM-5 diagnostic criteria for “Persistent Depressive Disorder”?

- Low self-esteem
- Reduced need for sleep
- Flight of ideas
- Persistence of symptoms for at least three consecutive years

Dermatology

121- A 32-year-old man presented with erythematous symmetrical plaques with silver scales on extensor surface of the upper and lower extremities. The lesions started 7 years ago. He also has pitting on finger- nail plates. Which of the following can exacerbate his lesions?

- Acitretin
- Topical steroid
- Phototherapy
- Hydroxychloroquine

122- A 2-year-old child with a history of fever, conjunctivitis and rhinorrhea presented with disseminated cutaneous erythema and tenderness accompanied by bullae and superficial erosions. Lesions initially appeared in periorificial areas and then progressed to skin folds. Nikolsky sign is present and there is no mucosal involvement. What is the appropriate diagnosis?

Toxic Epidermal Necrolysis

Staphylococcal Scalded Skin Syndrome

Erysipelas

Erythema Infectiosum

123- A 24-year-old man presented with maculopopular lesions on the dorsal and ventral aspects of hands and feet with slight itching and burning sensation since 3 days ago. On physical exam, a dark erythematous center with bullae surrounded with a light pink zone and peripheral erythematous circle as three concentric zones are observed. Histopathology shows lymphocyte infiltration in dermo-epidermal junction, around vessels, and dermal edema. Which of the following can be considered in the pathogenesis of the disease?

Streptococcal infection

Herpes simplex infection

Treatment with Carbamazepine

Contact with chemicals

124- A patient with a history of AIDS, presented with multiple violaceous and ulcerated papules and nodules mostly on the upper parts of the body and few similar lesions on palatal and nasal mucosa. In the evaluation of the lesions, HHV8 virus was detected. What is your diagnosis?

Bacillary Angiomatosis

Histoplasmosis

Squamous cell carcinoma

Kaposi Sarcoma

125- In which of the following skin tumors, "Hutchinson sign" can be observed?

Basal cell carcinoma

Squamous cell carcinoma

Nail melanoma

Dermatofibroma

126- An 8-year-old child presented with patchy hair loss on scalp with thick yellow crust and green-grey fluorescence on wood lamp examination. On microscopic examination of affected hair, hyphae and air spaces are observed in hair shafts. Which of the following is the appropriate treatment?

Oral Griseofulvin

Oral broad-spectrum antibiotic

Intralesional injection of corticosteroid

Intralesional injection of Glucantim

Bone and joint surgery

127- A 27-year-old male patient with knee dislocation has been admitted to the emergency department and has been reduced closely. The neurovascular examination is normal before and after close reduction. What is the next step for the patient management?

Discharge with caution about alarming signs

Admission in ward and close follow up

Angiography of popliteal artery

Vascular exploration and ligament reconstruction

128- A 9-year-old female has been referred to the clinic due to idiopathic scoliosis. In the radiography, the scoliosis angle is 40 degrees. What is the choice of treatment?

Surgery

Brace

Follow-up every 6 months

Reassurance to parents

129- Which of the following is a feature of club foot disease?

Heel valgus

Fore foot abduction

Ankle equinus

Fore foot pronation

130- Which muscle origin has the most pathology in tennis elbow disease?

Extensor carpi radialis brevis

Extensor carpi radialis longus

Flexor carpi radialis

Flexor carpi ulnaris

131- While the patient is lying on the prone position and the leg is hanging over the edge of the bed, the examiner squeezes the calf. This causes plantar flexion of the ankle. What is the name of the test and the result of the examination?

Thomas test- tibialis posterior tendon rupture

Thompson test- intact Achilles tendon

Thomas test- Achilles tendon rupture

Thompson test- intact tibialis posterior tendon

132- While working, a farmer suffered an open fracture of his right leg with a 10 cm wound. What is the appropriate antibiotic prophylaxis regimen?

Clindamycin

Cefazolin- Gentamicin- Vancomycin

Cefazolin- Penicillin

Cefazolin- Gentamicin- Penicillin

Urology

133- A 35-year-old female presented with a complaint of left flank pain without fever. On evaluation, hydronephrosis of the kidney and an 8 mm stone was reported in the left ureter located over the sacroiliac bony structures. The stone had been also reported at the same location of the ureter three weeks ago, when she had experienced the same pain. What is your recommendation?

Medical therapy for stone expulsion

Extracorporeal Shock Wave Lithotripsy (ESWL)

Percutaneous Nephrolithotomy (PCNL)

Transurethral Lithotripsy (TUL)

134- A 12-year-old boy has presented with a complaint of persistent testicular pain which has started abruptly 7 hours ago. On the examination, testicular tenderness is present with abnormal position. Also, with elevating the testicle the pain is exacerbated, while with rotating the testicle outward the patient's pain is relieved, and the clinical examination becomes normal. What is your next plan considering the most likely diagnosis?

- Performing elective orchiopexy
- Immediate orchiopexy
- Orchiopexy in case of recurring symptoms
- Antibiotic treatment and further investigations

135- A 55-year-old male who has been receiving an alpha-blocker and Finasteride for BPH from one year ago, presented with irritative urinary symptoms about one month ago. The laboratory results were as follows:

Cr: 1.2 mg/dl, Hb: 14 mg/dl, PSA: 2.5 ng/ml, U/C: positive.

After appropriate treatment for UTI, the patient's symptoms are completely resolved, and there are no abnormal findings on examination. Subsequent urine culture is negative, but the other Lab data has not changed. Which of the following measures is recommended?

- Continuing medical treatment and scheduling annual follow-ups
- Discontinuing the alpha-blocker and continuing treatment with Finasteride
- Recommending a prostate biopsy
- Recommending surgery for BPH

136- Which one of the following is correct regarding ureteropelvic junction obstruction (UPJO)?

- It is more common in girls than boys.
- The right side is involved more than the left.
- It is the most common congenital abnormality of the ureter.
- Acquired factors are the most common etiologies.

137- A 2-year-old asymptomatic female has been referred to the clinic. Her 4-year-old brother has undergone open surgery due to grade 5 vesico-ureteral reflux (VUR). What is your recommendation to screen her for VUR?

- Voiding Cystouterography (VCUG)
- Ultrasonography of the urinary system
- DMSA scan
- No need to screen

138- A two-day-old male has been referred with a complaint of no urination since birth. On physical examination, a prominent bladder is palpated. In the ultrasound, severe bilateral hydronephrosis and a completely distended bladder and a keyhole sign are reported. What is the most likely diagnosis?

- Vesicoureteral reflux (VUR)
- Posterior urethral valve (PUV)
- Ureterocele
- Neurogenic bladder

Ophtalmology

139- On ophthalmic examination of a 32-year-old man, the anterior-posterior diameter of the globe is longer than the normal diameter and images of the objects form in front of the retina. The curvatures of both cornea and lens are normal. Which refractive error is applicable to this patient?

- Refractive Myopia
- Axial Myopia
- Index Hyperopia
- Refractive Hyperopia

140- A fisherman's eye was damaged after hitting a fishing hook. On examination, his eyelid margin and cornea are lacerated with prolapse of the uveal tissue. Half of the hook is inside the patient's eye and the other half is protruding out of the eye. Which measure do you take for this patient in the emergency room?

Placing an upside down plastic cup on the affected eye of the patient and referring him to an ophthalmologist

Placing some sterile gauzes on the affected eye of the patient and referring him to an ophthalmologist

Cautiously removing the hook after instillation of the tetracaine drop

MRI imaging for locating the hook

141- A 45-year-old man with a history of using medical contact lenses has experienced severe redness and pain in both eyes since a month ago. Despite taking multiple broad-spectrum antibiotics and stopping the use of contact lenses, there was no improvement. On the corneal examination, a gray infiltration can be seen in the center of both eyes associated with radial perineuritis. In the smear made from the patient's lens solution, two-layered cysts are observed. All of the following actions are correct EXCEPT for:

Topical polyhexamethylene biguanide drop

Topical Neosporin and Tropicamide drops

Oral Itraconazole 200 mg every 6 hours

Topical betamethasone drop

142- A 50-year-old woman has experienced redness and mild pain in her left eye for the first time since three days ago. On examination, a diffuse swelling and vascular congestion in the episcleral layers with a pinkish hue is noted without tenderness. All of the following statements are correct, EXCEPT for:

Investigation for rheumatologic diseases is needed.

In most cases, it is one-sided.

Local or systemic NSAID is used in treatment.

It will improve spontaneously without treatment.

143- Which one of the following retinal findings is indicative of the proliferative stage of diabetic retinopathy?

- Flame-shaped hemorrhage
- Venous beading
- Tractional retinal detachment
- Hard exudate

144- Which one of the following diseases is the most important cause of the reduction in lipid composition of the tear layer?

- Stevens Johnson syndrome
- Chemical burn
- Meibomian gland dysfunction
- Vitamin A deficiency

Otorhinolaryngology (ear, nose & throat)

145- A 6-year-old child has presented with an ear pain since 4 days ago. He had a history of catching cold and purulent nasal secretions in the preceding week. On physical examination, bulging of tympanic membrane and hyperemia around the malleus are observed. What is the most appropriate action?

- Watchful waiting with pain killers
- Tympanic membrane puncture
- Treatment with Co-Amoxiclave
- Adenoidectomy

146- A 4-year-old girl has developed odynophagia, drooling, and respiratory distress following a sore throat and fever. A "thumb print sign" is observed in the lateral neck X-ray. Which diagnosis is relevant?

Tonsillitis

Croup

Bacterial tracheitis

Epiglottitis

147- A 13-year-old boy presented with complaints of progressive nasal congestion and several episodes of epistaxis. A unilateral mass is observed in the CT scan inside the nasal cavity. What is the most likely diagnosis?

Nasal polyp

Angiofibroma

Inverted Papilloma

Squamous cell carcinoma

148- A 40-year-old man presented with complaints of pain and swelling in his left submandibular region since a month ago. The patient's symptoms are aggravated by eating food. On sonography, the dilation of submandibular duct is evident. What is the diagnosis?

Acute sialadenitis

Sialolithiasis

Sjögren disease

Submandibular abscess

149- A 40-year-old man presented with progressive bilateral swelling of the neck following a dental infection. On physical exam, sublingual, submandibular bulging, and trismus are evident. Which of the following is the first action?

Surgical drainage

Antibiotic treatment and watchful waiting

Airway control

Extraction of the involved tooth

150- Which of the following sinusitis may be associated with retro-orbital and occipital pain?

frontal

maxillary

ethmoid

sphenoid

Bio-Statistics and Epidemiology

151- A researcher wants to study the relationship between opium use and COVID-19 mortality. Which of the following statistical tests is suitable to test this hypothesis?

Chi square

Independent T-Test

Paired T-Test

Mac-Nemar

152- Which of the following items is correct in a negative skewed distribution?

Median and mode are equal.

68% of samples are distributed within ± 1 standard deviation of mean.

The mode value is greater than mean.

Half of the data is located in the right side of the mean value.

153- The sensitivity and specificity of a diagnostic test for the disease B are 90 and 80 percent, respectively. If the real prevalence of the disease in a sample population of 1,000 people equals 10%, how many false positive test results are expected?

720

180

90

10

154- Which of the following items is assessed for primary screening of neonatal hypothyroidism in Iran?

TSH

T4

T3Ru

T3

155- The second generation of "HIV/Aids surveillance" is based on the

combination of serology and behavior information

monitoring of HIV/Aids disease and mortality

HIV screening in blood donors

antiviral therapy

156- In which of the following groups, the lung cancer incidence decreased in 2017 compared to that of 1990?

World men

World women

Iranian men

Iranian women

Pharmacology

157- Which of the following is the dangerous side effect of anti-muscarinic drugs in children?

Hyperthermia

Hypotension

Bronchospasm

Bradycardy

158- Which of the following side-effects is observed in the simultaneous use of Captopril and Spironolactone?

Hyperglycemia

Bronchospasm

Hyperkalemia

Ototoxicity

159- Which of the following hypoglycemic drugs is associated with the risk of lactic acidosis in patients with chronic cardiopulmonary dysfunction?

Metformin

Acarbose

Glyburide

Sitagliptin

160- Which of these conditions could be exacerbated with the use of glucocorticoids?

Asthma

Advanced psychosis

Rheumatoid arthritis

Adrenal insufficiency

161- Which of the following antibiotics is prescribed for the treatment of infection caused by Clostridium Difficile?

Amoxicillin

Clindamycin

Ciprofloxacin

Vancomycin

162- A 45- year-old man presented with depression and a history of smoking one pocket of cigarettes per day. He attempts to quit smoking. Which of the following antidepressants is appropriate for him?

Nefazodone

Venlafaxine

Bupropion

Mirtazapine

Medical Ethics

163- The patient is a 68-year-old woman suffering from ovarian malignancy; the doctor conceals the diagnosis because he/she thinks that the patient does not have enough capacity to understand the information. Which of the following is correct regarding the doctor's behavior?

It is ethically acceptable, as the doctor must make the final decision about the patient's capacity.

It is not ethically acceptable unless the patient's lack of capacity is obvious and confirmed by competent authorities.

It is not ethically acceptable, even if the patient has expressed a personal unwillingness to know the truth.

In all situations, the doctor must completely inform the patient.

164- Which of the following represents a situation in one's profession where he/she is motivated to do something obviously contradicting his/her professional duties?

Fee splitting

Professionalism

Conflict of interest

Primacy of patient welfare

165- A researcher plans to conduct a study to investigate the effect of ozone-therapy on the response to chemotherapy in children with leukemia. What is the first and most important ethical issue this researcher must consider in this research?

Risk assessment

Confidentiality and privacy

Consent of legal guardian and assent of children

Justification of conducting research on the given population

Pathology

166- Which of the following is correct regarding pathophysiology of Congestive Heart Failure (CHF)?

Volume overload causes concentric hypertrophy.

Pressure overload leads to severe cardiac dilatation.

Natriuretic peptide and mineralocorticoids lead to the same result in CHF.

In cardiac shunts, new sarcomeres are added in series to the existing ones.

167- A 35-year-old man has presented with paroxysmal hypertension, palpitation, and sweating. MRI shows a centrally located right adrenal mass, 2cm in diameter. Which of the following statements is correct regarding the most probable diagnosis?

Definitive diagnosis of malignancy is only based on metastasis.

The disease is usually associated with Cushing syndrome.

Tumor bilaterality is seen in 30-50% of the cases.

There is a high probability of concomitant adrenogenital syndrome.

168- Which of the following is pathognomonic in a patient with uncontrolled diabetes?

Membranous nephropathy

Mesangial sclerosis

Nodular glomerulosclerosis

Hyaline arteriosclerosis

169- Which of the following is not seen in Mean Corpuscular Volume (MCV) within the range of 60-65 femtolitre?

Tetrahydrofolate deficiency

Hemoglobin alpha gene deletion

Metastatic colon cancer

Post-duodenectomy state

170- Which of the following tumors is positive for Glial Fibrillary Acidic Protein (GFAP) IHC stain?

Astrocytoma

Hemangioblastoma

Medulloblastoma

Meningioma

171- Which type of breast cancer is more commonly associated with metastasis to the GI tract, uterus, bone marrow, and Cerebrospinal Fluid (CSF)?

Carcinoma with medullary features

Infiltrating ductal carcinoma (NOS)

Tubular carcinoma

Infiltrating lobular carcinoma

172- Which of the following is correct for differentiating endometrioid from serous carcinoma of the endometrium?

Elder patients with endometrioid type

More aggressive behaviour with endometrioid type

Mutation in TP53 gene in serous carcinoma

Obesity, diabetes, and hypertension as risk factors for endometrioid carcinoma

173- Which of the testicular neoplasms is associated with elevated serum levels of lactate dehydrogenase and alpha fetoprotein?

Seminoma

Choriocarcinoma

Embryonal carcinoma

Yolk sac tumor

174- Which of the morphologic findings is NOT seen in pulmonary emphysema?

Destruction of the alveolar wall

Fibrosis of the alveolar wall

Collapse of the small airways

Decreased alveolar wall capillaries

175- A 40-year-old man presented with multiple symmetrical purple pruritic papules on the forearms as well as oral lesions. Which of the following is NOT correct regarding the most probable diagnosis?

Lymphocytic infiltration at the dermoepidermal junction

Presence of Civatte bodies in papillary dermis

Sawtooth appearance of the lower epidermis

Thinning or loss of the epidermal granular layer

176- A 25-year-old man has presented with mucohemorrhagic stool since 6 months ago. Colonoscopy reveals erythema and ulceration at the distal colon. Microscopically, the colonic mucosa shows granuloma formation and lymphoplasmacytic infiltration of the lamina propria along with crypt disarray and neutrophilic permeation within the crypts.

Which of the following is more probable in this patient?

The small and large bowels show intermittent intact and involved areas.

Pseudopolyps and toxic megacolon are present.

The lesions are limited to the mucosa and submucosa.

Flask-shaped ulcers are usually seen within the mucosa.

177- Which of the following is associated with both micro- and macrovesicular fatty change?

Reye syndrome

Acute fatty liver of pregnancy

Tetracycline toxicity

Alcoholic fatty liver

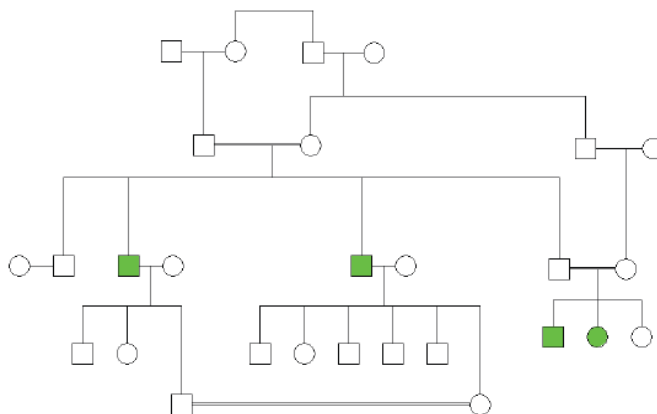
178- Which one of the following statements is true about the human genome structure?

- All human genes consist of intron.
- Overlapping genes do not exist in humans.
- The number of exons in human genes is variable.
- The number of introns in human genes is constant.

179- Which of the following inherited cancers is due to BRCA1 gene mutation?

- Von Hippel-Lindau syndrome
- Li-Fraumeni syndrome
- Mast cell leukemia
- Ovarian cancer

180- The following pedigree shows inheritance pattern in



- Duchenne muscular dystrophy
- Cystic fibrosis
- Rett syndrome
- Huntington

181- A 17-year-old girl with short stature presented to the clinic with a complaint of primary amenorrhea. Which syndrome is considered for this patient?

Klinefelter

Turner

Down

Jacob

182- A healthy consanguineous couple, have a healthy son and two children (one son and one daughter) affected with physical disability. This disease did not exist in the family history of any of the couple. According to the most likely mode of inheritance, what is the risk of recurrence of the disease in the next pregnancy?

25%

50%

75%

100%

Medical Physics

183- In direct astigmatism the curvature of the vertical meridian is

more than that of the horizontal meridian

equal to that of the horizontal meridian

half of the horizontal meridian curvature

less than the horizontal meridian curvature

184- What are the most important interactions of the ultrasound waves with tissue in diagnosis and treatment, respectively (left to right)?

reflection, absorption

absorption, refraction

absorption, reflection

reflection, divergence

185- If the total number of protons and neutrons of the atoms is equal, they are to each other.

Isotope

Isobar

Isomer

Isotone

186- Radiation in the weeks of pregnancy will cause severe birth defects.

2-3

4-11

16-20

30-38

187- Why filtration is used in the x-ray tube?

Deleting high power radiation

Deleting the effect of Compton scattering

Reducing the penetration power of the beam

Reducing the patient radiation dose

Immunology

188- Humoral immunity mechanisms have a pivotal role in the pathogenesis of all of the following disorders, EXCEPT for

- Systemic lupus erythematosus
- Post-streptococcal glomerulonephritis
- Pemphigus vulgaris
- Type 1 diabetes

189- A 32-year-old woman develops an itchy rash on her ankle two days after gardening; Her patch test was positive for a type of plant. Which one of the following molecules can be involved in this sensitivity?

- Granular contents of natural killer (NK) cell
- Type 1 helper T cells (TH1) cytokines
- Histamine of Mast cells and basophils
- Contents of Eosinophils granules

190- Thrombotic blockage is observed in a 45-year old man one hour after kidney transplantation. What is the most likely diagnosis?

- Hyperacute rejection
- Humoral acute rejection
- Chronic rejection
- Cellular acute rejection

191- Which one of the following vaccines can lead to such adverse reactions as pneumonia, seizures, encephalopathy, and subacute sclerosing panencephalitis (SSPE)?

Rabies vaccine

Polio vaccine

Measles vaccine

Influenza vaccine

192- Which one of the following T helper (TH) cell can cause recurrent candidiasis in case of any defects?

TH1

TH2

TH17

TH22

193- Which one of the following anti-cytokine antibodies is an effective therapy for psoriasis?

Anti-IFN- α

Anti-IL-10

Anti-IFN- β

Anti-IL-23

194- Which virus can cause lymphoma in human beings?

HIV

EBV

HTLV

CMV

195- CAR-T cell therapy can be a more effective approach in

Blood cancer

Prostate cancer

Breast cancer

Lung cancer

Nutrition science

196- Which mineral deficiency is more likely in people using diuretics for a long time?

Magnesium

Copper

Manganese

Iron

197- In which of the following subjects nitrogen balance becomes negative?

Pregnant woman

Growing child

Child recovering from kwashiorkor

Individuals suffering from fever

198- Toxicity of which nutrient masks vitamin B12 deficiency symptoms?

Folic acid

Biotin

Iron

Zinc

199- In which of the following conditions, a patient with protein-energy malnutrition (PEM) unable to eat for a long time is a good candidate for parenteral nutrition?

Obstruction in the lower third of esophagus

Severe gastrointestinal bleeding

Anorexia for an extended period of time

Severe gastroesophageal reflux disease

200- Which of the following sentences is true about Eicosapentaenoic acid (EPA) and Docosahexaenoic acid (DHA)?

Both are omega-6 fatty acids.

They are essential for normal growth and development.

Both can be synthesized slowly from Linoleic acid.

They are mainly found in seeds of plants.