

HESI Pharmacology Exam Practice

QUESTIONS AND ANSWERS 2023/2024

1) A nurse is caring for a client with hyperparathyroidism and notes that the client's serum calcium level is 13 mg/dL. Which medication should the nurse prepare to administer as prescribed to the client?

1. Calcium chloride
2. Calcium gluconate
3. Calcitonin (Miacalcin)
4. Large doses of vitamin D - CORRECT ANSWER 3. Calcitonin (Miacalcin)

Rationale:

The normal serum calcium level is 8.6 to 10.0 mg/dL. This client is experiencing hypercalcemia. Calcium gluconate and calcium chloride are medications used for the treatment of tetany, which occurs as a result of acute hypocalcemia. In hypercalcemia, large doses of vitamin D need to be avoided. Calcitonin, a thyroid hormone, decreases the plasma calcium level by inhibiting bone resorption and lowering the serum calcium concentration.

2.) Oral iron supplements are prescribed for a 6-year-old child with iron deficiency anemia. The nurse instructs the mother to administer the iron with which best food item?

1. Milk
2. Water
3. Apple juice
4. Orange juice - CORRECT ANSWER 4. Orange juice

Rationale:

Vitamin C increases the absorption of iron by the body. The mother should be instructed to administer the medication with a citrus fruit or a juice that is high in vitamin C. Milk may affect

absorption of the iron. Water will not assist in absorption. Orange juice contains a greater amount of vitamin C than apple juice.

3.) Salicylic acid is prescribed for a client with a diagnosis of psoriasis. The nurse monitors the client, knowing that which of the following would indicate the presence of systemic toxicity from this medication?

1. Tinnitus
2. Diarrhea
3. Constipation
4. Decreased respirations - CORRECT ANSWER

Rationale:

Salicylic acid is absorbed readily through the skin, and systemic toxicity (salicylism) can result. Symptoms include tinnitus, dizziness, hyperpnea, and psychological disturbances. Constipation and diarrhea are not associated with salicylism.

4.) The camp nurse asks the children preparing to swim in the lake if they have applied sunscreen. The nurse reminds the children that chemical sunscreens are most effective when applied:

1. Immediately before swimming
2. 15 minutes before exposure to the sun
3. Immediately before exposure to the sun
4. At least 30 minutes before exposure to the sun - CORRECT ANSWER

Rationale:

Sunscreens are most effective when applied at least 30 minutes before exposure to the sun so that they can penetrate the skin. All sunscreens should be reapplied after swimming or sweating.

5.) Mafenide acetate (Sulfamylon) is prescribed for the client with a burn injury. When applying the medication, the client complains of local discomfort and burning. Which of the following is the most appropriate nursing action?

1. Notifying the registered nurse
 2. Discontinuing the medication
 3. Informing the client that this is normal
 4. Applying a thinner film than prescribed to the burn site -
- CORRECT ANSWER 3. Informing the client that this is normal

Rationale:

Mafenide acetate is bacteriostatic for gram-negative and gram-positive organisms and is used to treat burns to reduce bacteria present in avascular tissues. The client should be informed that the medication will cause local discomfort and burning and that this is a normal reaction; therefore options 1, 2, and 4 are incorrect

6.) The burn client is receiving treatments of topical mafenide acetate (Sulfamylon) to the site of injury. The nurse monitors the client, knowing that which of the following indicates that a systemic effect has occurred?

1. Hyperventilation
2. Elevated blood pressure
3. Local pain at the burn site
4. Local rash at the burn site - CORRECT ANSWER

1. Hyperventilation

Rationale:

Mafenide acetate is a carbonic anhydrase inhibitor and can suppress renal excretion of acid, thereby causing acidosis. Clients receiving this treatment should be monitored for signs of an acid-base imbalance (hyperventilation). If this occurs, the medication should be discontinued for 1 to 2 days. Options 3 and 4 describe local rather than systemic effects. An elevated blood pressure may be expected from the pain that occurs with a burn injury.

7.) Isotretinoin is prescribed for a client with severe acne. Before the administration of this medication, the nurse anticipates that which laboratory test will be prescribed?

1. Platelet count

2. Triglyceride level
3. Complete blood count
4. White blood cell count - CORRECT ANSWER 2. Triglyceride level

Rationale:

Isotretinoin can elevate triglyceride levels. Blood triglyceride levels should be measured before treatment and periodically thereafter until the effect on the triglycerides has been evaluated. Options 1, 3, and 4 do not need to be monitored specifically during this treatment.

8.) A client with severe acne is seen in the clinic and the health care provider (HCP) prescribes isotretinoin. The nurse reviews the client's medication record and would contact the (HCP) if the client is taking which medication?

1. Vitamin A
2. Digoxin (Lanoxin)
3. Furosemide (Lasix)
4. Phenytoin (Dilantin) - CORRECT ANSWER 1. Vitamin A

Rationale:

Isotretinoin is a metabolite of vitamin A and can produce generalized intensification of isotretinoin toxicity. Because of the potential for increased toxicity, vitamin A supplements should be discontinued before isotretinoin therapy. Options 2, 3, and 4 are not contraindicated with the use of isotretinoin.

9.) The nurse is applying a topical corticosteroid to a client with eczema. The nurse would monitor for the potential for increased systemic absorption of the medication if the medication were being applied to which of the following body areas?

1. Back
2. Axilla
3. Soles of the feet
4. Palms of the hands - CORRECT ANSWER 2. Axilla

Rationale:

Topical corticosteroids can be absorbed into the systemic circulation. Absorption is higher from regions where the skin is especially permeable (scalp, axilla, face, eyelids, neck, perineum, genitalia), and lower from regions in which permeability is poor (back, palms, soles).

10.) The clinic nurse is performing an admission assessment on a client. The nurse notes that the client is taking azelaic acid (Azelex). Because of the medication prescription, the nurse would suspect that the client is being treated for:

1. Acne
2. Eczema
3. Hair loss
4. Herpes simplex - CORRECT ANSWER 1. Acne

Rationale:

Azelaic acid is a topical medication used to treat mild to moderate acne. The acid appears to work by suppressing the growth of *Propionibacterium acnes* and decreasing the proliferation of keratinocytes. Options 2, 3, and 4 are incorrect.

11.) The health care provider has prescribed silver sulfadiazine (Silvadene) for the client with a partial-thickness burn, which has cultured positive for gram-negative bacteria. The nurse is reinforcing information to the client about the medication. Which statement made by the client indicates a lack of understanding about the treatments?

1. "The medication is an antibacterial."
2. "The medication will help heal the burn."
3. "The medication will permanently stain my skin."
4. "The medication should be applied directly to the wound." - CORRECT ANSWER 3. "The medication will permanently stain my skin."

Rationale:

Silver sulfadiazine (Silvadene) is an antibacterial that has a broad spectrum of activity against gram-negative bacteria, gram-positive

bacteria, and yeast. It is applied directly to the wound to assist in healing. It does not stain the skin.

12.) A nurse is caring for a client who is receiving an intravenous (IV) infusion of an antineoplastic medication. During the infusion, the client complains of pain at the insertion site. During an inspection of the site, the nurse notes redness and swelling and that the rate of infusion of the medication has slowed. The nurse should take which appropriate action?

1. Notify the registered nurse.
 2. Administer pain medication to reduce the discomfort.
 3. Apply ice and maintain the infusion rate, as prescribed.
 4. Elevate the extremity of the IV site, and slow the infusion. -
- CORRECT ANSWER 1. Notify the registered nurse.

Rationale:

When antineoplastic medications (Chemotherapeutic Agents) are administered via IV, great care must be taken to prevent the medication from escaping into the tissues surrounding the injection site, because pain, tissue damage, and necrosis can result. The nurse monitors for signs of extravasation, such as redness or swelling at the insertion site and a decreased infusion rate. If extravasation occurs, the registered nurse needs to be notified; he or she will then contact the health care provider.

13.) The client with squamous cell carcinoma of the larynx is receiving bleomycin intravenously. The nurse caring for the client anticipates that which diagnostic study will be prescribed?

1. Echocardiography
 2. Electrocardiography
 3. Cervical radiography
 4. Pulmonary function studies - CORRECT ANSWER 4.
- Pulmonary function studies

Rationale:

Bleomycin is an antineoplastic medication (Chemotherapeutic Agents) that can cause interstitial pneumonitis, which can

progress to pulmonary fibrosis. Pulmonary function studies along with hematological, hepatic, and renal function tests need to be monitored. The nurse needs to monitor lung sounds for dyspnea and crackles, which indicate pulmonary toxicity. The medication needs to be discontinued immediately if pulmonary toxicity occurs. Options 1, 2, and 3 are unrelated to the specific use of this medication.

14.) The client with acute myelocytic leukemia is being treated with busulfan (Myleran). Which laboratory value would the nurse specifically monitor during treatment with this medication?

1. Clotting time
2. Uric acid level
3. Potassium level
4. Blood glucose level - CORRECT ANSWER

Rationale:

Busulfan (Myleran) can cause an increase in the uric acid level. Hyperuricemia can produce uric acid nephropathy, renal stones, and acute renal failure. Options 1, 3, and 4 are not specifically related to this medication.

15.) The client with small cell lung cancer is being treated with etoposide (VePesid). The nurse who is assisting in caring for the client during its administration understands that which side effect is specifically associated with this medication?

1. Alopecia
2. Chest pain
3. Pulmonary fibrosis
4. Orthostatic hypotension - CORRECT ANSWER

Orthostatic hypotension

Rationale:

A side effect specific to etoposide is orthostatic hypotension. The client's blood pressure is monitored during the infusion. Hair loss occurs with nearly all the antineoplastic medications. Chest pain and pulmonary fibrosis are unrelated to this medication.

16.) The clinic nurse is reviewing a teaching plan for the client receiving an antineoplastic medication. When implementing the plan, the nurse tells the client:

1. To take aspirin (acetylsalicylic acid) as needed for headache
 2. Drink beverages containing alcohol in moderate amounts each evening
 3. Consult with health care providers (HCPs) before receiving immunizations
 4. That it is not necessary to consult HCPs before receiving a flu vaccine at the local health fair - CORRECT ANSWER
3. Consult with health care providers (HCPs) before receiving immunizations

Rationale:

Because antineoplastic medications lower the resistance of the body, clients must be informed not to receive immunizations without a HCP's approval. Clients also need to avoid contact with individuals who have recently received a live virus vaccine. Clients need to avoid aspirin and aspirin-containing products to minimize the risk of bleeding, and they need to avoid alcohol to minimize the risk of toxicity and side effects.

17.) The client with ovarian cancer is being treated with vincristine (Oncovin). The nurse monitors the client, knowing that which of the following indicates a side effect specific to this medication?

1. Diarrhea
 2. Hair loss
 3. Chest pain
 4. Numbness and tingling in the fingers and toes - CORRECT ANSWER
4. Numbness and tingling in the fingers and toes

Rationale:

A side effect specific to vincristine is peripheral neuropathy, which occurs in almost every client. Peripheral neuropathy can be manifested as numbness and tingling in the fingers and toes. Depression of the Achilles tendon reflex may be the first clinical

sign indicating peripheral neuropathy. Constipation rather than diarrhea is most likely to occur with this medication, although diarrhea may occur occasionally. Hair loss occurs with nearly all the antineoplastic medications. Chest pain is unrelated to this medication.

18.) The nurse is reviewing the history and physical examination of a client who will be receiving asparaginase (Elspar), an antineoplastic agent. The nurse consults with the registered nurse regarding the administration of the medication if which of the following is documented in the client's history?

1. Pancreatitis
2. Diabetes mellitus
3. Myocardial infarction
4. Chronic obstructive pulmonary disease - CORRECT

ANSWER 1. Pancreatitis

Rationale:

Asparaginase (Elspar) is contraindicated if hypersensitivity exists, in pancreatitis, or if the client has a history of pancreatitis. The medication impairs pancreatic function and pancreatic function tests should be performed before therapy begins and when a week or more has elapsed between administration of the doses. The client needs to be monitored for signs of pancreatitis, which include nausea, vomiting, and abdominal pain. The conditions noted in options 2, 3, and 4 are not contraindicated with this medication.

19.) Tamoxifen is prescribed for the client with metastatic breast carcinoma. The nurse understands that the primary action of this medication is to:

1. Increase DNA and RNA synthesis.
2. Promote the biosynthesis of nucleic acids.
3. Increase estrogen concentration and estrogen response.
4. Compete with estradiol for binding to estrogen in tissues containing high concentrations of receptors. - CORRECT

ANSWER 4. Compete with estradiol for binding to estrogen in tissues containing high concentrations of receptors.

Rationale:

Tamoxifen is an antineoplastic medication that competes with estradiol for binding to estrogen in tissues containing high concentrations of receptors. Tamoxifen is used to treat metastatic breast carcinoma in women and men. Tamoxifen is also effective in delaying the recurrence of cancer following mastectomy.

Tamoxifen reduces DNA synthesis and estrogen response.

20.) The client with metastatic breast cancer is receiving tamoxifen. The nurse specifically monitors which laboratory value while the client is taking this medication?

1. Glucose level
2. Calcium level
3. Potassium level
4. Prothrombin time - CORRECT ANSWER 2. Calcium level

Rationale:

Tamoxifen may increase calcium, cholesterol, and triglyceride levels. Before the initiation of therapy, a complete blood count, platelet count, and serum calcium levels should be assessed. These blood levels, along with cholesterol and triglyceride levels, should be monitored periodically during therapy. The nurse should assess for hypercalcemia while the client is taking this medication. Signs of hypercalcemia include increased urine volume, excessive thirst, nausea, vomiting, constipation, hypotonicity of muscles, and deep bone and flank pain.

21.) A nurse is assisting with caring for a client with cancer who is receiving cisplatin. Select the adverse effects that the nurse monitors for that are associated with this medication. Select all that apply.

1. Tinnitus
2. Ototoxicity
3. Hyperkalemia

4. Hypercalcemia
5. Nephrotoxicity
6. Hypomagnesemia - CORRECT ANSWER
1. Tinnitus
2. Ototoxicity
5. Nephrotoxicity
6. Hypomagnesemia

Rationale:

Cisplatin is an alkylating medication. Alkylating medications are cell cycle phase-nonspecific medications that affect the synthesis of DNA by causing the cross-linking of DNA to inhibit cell reproduction. Cisplatin may cause ototoxicity, tinnitus, hypokalemia, hypocalcemia, hypomagnesemia, and nephrotoxicity. Amifostine (Ethyol) may be administered before cisplatin to reduce the potential for renal toxicity.

22.) A nurse is caring for a client after thyroidectomy and notes that calcium gluconate is prescribed for the client. The nurse determines that this medication has been prescribed to:

1. Treat thyroid storm.
2. Prevent cardiac irritability.
3. Treat hypocalcemic tetany.
4. Stimulate the release of parathyroid hormone. - CORRECT ANSWER
3. Treat hypocalcemic tetany.

Rationale:

Hypocalcemia can develop after thyroidectomy if the parathyroid glands are accidentally removed or injured during surgery. Manifestations develop 1 to 7 days after surgery. If the client develops numbness and tingling around the mouth, fingertips, or toes or muscle spasms or twitching, the health care provider is notified immediately. Calcium gluconate should be kept at the bedside.

23.) A client who has been newly diagnosed with diabetes mellitus has been stabilized with daily insulin injections. Which

information should the nurse teach when carrying out plans for discharge?

1. Keep insulin vials refrigerated at all times.
 2. Rotate the insulin injection sites systematically.
 3. Increase the amount of insulin before unusual exercise.
 4. Monitor the urine acetone level to determine the insulin dosage. - CORRECT ANSWER
2. Rotate the insulin injection sites systematically.

Rationale:

Insulin dosages should not be adjusted or increased before unusual exercise. If acetone is found in the urine, it may possibly indicate the need for additional insulin. To minimize the discomfort associated with insulin injections, the insulin should be administered at room temperature. Injection sites should be systematically rotated from one area to another. The client should be instructed to give injections in one area, about 1 inch apart, until the whole area has been used and then to change to another site. This prevents dramatic changes in daily insulin absorption.

24.) A nurse is reinforcing teaching for a client regarding how to mix regular insulin and NPH insulin in the same syringe. Which of the following actions, if performed by the client, indicates the need for further teaching?

1. Withdraws the NPH insulin first
 2. Withdraws the regular insulin first
 3. Injects air into NPH insulin vial first
 4. Injects an amount of air equal to the desired dose of insulin into the vial - CORRECT ANSWER
1. Withdraws the NPH insulin first

Rationale:

When preparing a mixture of regular insulin with another insulin preparation, the regular insulin is drawn into the syringe first. This sequence will avoid contaminating the vial of regular insulin with insulin of another type. Options 2, 3, and 4 identify the correct actions for preparing NPH and regular insulin.

25.) A home care nurse visits a client recently diagnosed with diabetes mellitus who is taking Humulin NPH insulin daily. The client asks the nurse how to store the unopened vials of insulin.

The nurse tells the client to:

1. Freeze the insulin.
 2. Refrigerate the insulin.
 3. Store the insulin in a dark, dry place.
 4. Keep the insulin at room temperature. - CORRECT ANSWER
2. Refrigerate the insulin.

Rationale:

Insulin in unopened vials should be stored under refrigeration until needed. Vials should not be frozen. When stored unopened under refrigeration, insulin can be used up to the expiration date on the vial. Options 1, 3, and 4 are incorrect.

26.) Glimepiride (Amaryl) is prescribed for a client with diabetes mellitus. A nurse reinforces instructions for the client and tells the client to avoid which of the following while taking this medication?

1. Alcohol
 2. Organ meats
 3. Whole-grain cereals
 4. Carbonated beverages - CORRECT ANSWER
1. Alcohol

Rationale:

When alcohol is combined with glimepiride (Amaryl), a disulfiram-like reaction may occur. This syndrome includes flushing, palpitations, and nausea. Alcohol can also potentiate the hypoglycemic effects of the medication. Clients need to be instructed to avoid alcohol consumption while taking this medication. The items in options 2, 3, and 4 do not need to be avoided.

27.) Sildenafil (Viagra) is prescribed to treat a client with erectile dysfunction. A nurse reviews the client's medical record and

would question the prescription if which of the following is noted in the client's history?

1. Neuralgia
 2. Insomnia
 3. Use of nitroglycerin
 4. Use of multivitamins - CORRECT ANSWER
3. Use of nitroglycerin

Rationale:

Sildenafil (Viagra) enhances the vasodilating effect of nitric oxide in the corpus cavernosum of the penis, thus sustaining an erection. Because of the effect of the medication, it is contraindicated with concurrent use of organic nitrates and nitroglycerin. Sildenafil is not contraindicated with the use of vitamins. Neuralgia and insomnia are side effects of the medication.

28.) The health care provider (HCP) prescribes exenatide (Byetta) for a client with type 1 diabetes mellitus who takes insulin. The nurse knows that which of the following is the appropriate intervention?

1. The medication is administered within 60 minutes before the morning and evening meal.
 2. The medication is withheld and the HCP is called to question the prescription for the client.
 3. The client is monitored for gastrointestinal side effects after administration of the medication.
 4. The insulin is withdrawn from the Penlet into an insulin syringe to prepare for administration. - CORRECT ANSWER
2. The medication is withheld and the HCP is called to question the prescription for the client.

Rationale:

Exenatide (Byetta) is an incretin mimetic used for type 2 diabetes mellitus only. It is not recommended for clients taking insulin. Hence, the nurse should hold the medication and question the HCP regarding this prescription. Although options 1 and 3 are

correct statements about the medication, in this situation the medication should not be administered. The medication is packaged in prefilled pens ready for injection without the need for drawing it up into another syringe.

29.) A client is taking Humulin NPH insulin daily every morning. The nurse reinforces instructions for the client and tells the client that the most likely time for a hypoglycemic reaction to occur is:

1. 2 to 4 hours after administration
2. 4 to 12 hours after administration
3. 16 to 18 hours after administration
4. 18 to 24 hours after administration - CORRECT ANSWER 2. 4 to 12 hours after administration

Rationale:

Humulin NPH is an intermediate-acting insulin. The onset of action is 1.5 hours, it peaks in 4 to 12 hours, and its duration of action is 24 hours. Hypoglycemic reactions most likely occur during peak time.

30.) A client with diabetes mellitus visits a health care clinic. The client's diabetes mellitus previously had been well controlled with glyburide (DiaBeta) daily, but recently the fasting blood glucose level has been 180 to 200 mg/dL. Which medication, if added to the client's regimen, may have contributed to the hyperglycemia?

1. Prednisone
2. Phenyelzine (Nardil)
3. Atenolol (Tenormin)
4. Allopurinol (Zyloprim) - CORRECT ANSWER 1. Prednisone

Rationale:

Prednisone may decrease the effect of oral hypoglycemics, insulin, diuretics, and potassium supplements. Option 2, a monoamine oxidase inhibitor, and option 3, a β -blocker, have their own intrinsic hypoglycemic activity. Option 4 decreases urinary excretion of sulfonylurea agents, causing increased levels of the oral agents, which can lead to hypoglycemia.

31.) A community health nurse visits a client at home. Prednisone 10 mg orally daily has been prescribed for the client and the nurse reinforces teaching for the client about the medication. Which statement, if made by the client, indicates that further teaching is necessary?

1. "I can take aspirin or my antihistamine if I need it."
 2. "I need to take the medication every day at the same time."
 3. "I need to avoid coffee, tea, cola, and chocolate in my diet."
 4. "If I gain more than 5 pounds a week, I will call my doctor." - CORRECT ANSWER
1. "I can take aspirin or my antihistamine if I need it."

Rationale:

Aspirin and other over-the-counter medications should not be taken unless the client consults with the health care provider (HCP). The client needs to take the medication at the same time every day and should be instructed not to stop the medication. A slight weight gain as a result of an improved appetite is expected, but after the dosage is stabilized, a weight gain of 5 lb or more weekly should be reported to the HCP. Caffeine-containing foods and fluids need to be avoided because they may contribute to steroid-ulcer development.

32.) Desmopressin acetate (DDAVP) is prescribed for the treatment of diabetes insipidus. The nurse monitors the client after medication administration for which therapeutic response?

1. Decreased urinary output
 2. Decreased blood pressure
 3. Decreased peripheral edema
 4. Decreased blood glucose level - CORRECT ANSWER
1. Decreased urinary output

Decreased urinary output

Rationale:

Desmopressin promotes renal conservation of water. The hormone carries out this action by acting on the collecting ducts of the kidney to increase their permeability to water, which results in

increased water reabsorption. The therapeutic effect of this medication would be manifested by a decreased urine output. Options 2, 3, and 4 are unrelated to the effects of this medication.

33.) The home health care nurse is visiting a client who was recently diagnosed with type 2 diabetes mellitus. The client is prescribed repaglinide (Prandin) and metformin (Glucophage) and asks the nurse to explain these medications. The nurse should reinforce which instructions to the client? Select all that apply.

1. Diarrhea can occur secondary to the metformin.
 2. The repaglinide is not taken if a meal is skipped.
 3. The repaglinide is taken 30 minutes before eating.
 4. Candy or another simple sugar is carried and used to treat mild hypoglycemia episodes.
 5. Metformin increases hepatic glucose production to prevent hypoglycemia associated with repaglinide.
 6. Muscle pain is an expected side effect of metformin and may be treated with acetaminophen (Tylenol). - CORRECT ANSWER
1. Diarrhea can occur secondary to the metformin.
 2. The repaglinide is not taken if a meal is skipped.
 3. The repaglinide is taken 30 minutes before eating.
 4. Candy or another simple sugar is carried and used to treat mild hypoglycemia episodes.

Rationale:

Repaglinide is a rapid-acting oral hypoglycemic agent that stimulates pancreatic insulin secretion that should be taken before meals, and that should be withheld if the client does not eat.

Hypoglycemia is a side effect of repaglinide and the client should always be prepared by carrying a simple sugar with her or him at all times. Metformin is an oral hypoglycemic given in combination with repaglinide and works by decreasing hepatic glucose production. A common side effect of metformin is diarrhea.

Muscle pain may occur as an adverse effect from metformin but it might signify a more serious condition that warrants health care provider notification, not the use of acetaminophen.

34.) A client with Crohn's disease is scheduled to receive an infusion of infliximab (Remicade). The nurse assisting in caring for the client should take which action to monitor the effectiveness of treatment?

1. Monitoring the leukocyte count for 2 days after the infusion
2. Checking the frequency and consistency of bowel movements
3. Checking serum liver enzyme levels before and after the infusion
4. Carrying out a Hematest on gastric fluids after the infusion is completed - CORRECT ANSWER

Rationale:

The principal manifestations of Crohn's disease are diarrhea and abdominal pain. Infliximab (Remicade) is an immunomodulator that reduces the degree of inflammation in the colon, thereby reducing the diarrhea. Options 1, 3, and 4 are unrelated to this medication.

35.) The client has a PRN prescription for loperamide hydrochloride (Imodium). The nurse understands that this medication is used for which condition?

1. Constipation
2. Abdominal pain
3. An episode of diarrhea
4. Hematest-positive nasogastric tube drainage - CORRECT ANSWER

Rationale:

Loperamide is an antidiarrheal agent. It is used to manage acute and also chronic diarrhea in conditions such as inflammatory bowel disease. Loperamide also can be used to reduce the volume of drainage from an ileostomy. It is not used for the conditions in options 1, 2, and 4.

36.) The client has a PRN prescription for ondansetron (Zofran). For which condition should this medication be administered to the postoperative client?

1. Paralytic ileus
2. Incisional pain
3. Urinary retention
4. Nausea and vomiting - CORRECT ANSWER
4. Nausea and vomiting

Rationale:

Ondansetron is an antiemetic used to treat postoperative nausea and vomiting, as well as nausea and vomiting associated with chemotherapy. The other options are incorrect.

37.) The client has begun medication therapy with pancrelipase (Pancrease MT). The nurse evaluates that the medication is having the optimal intended benefit if which effect is observed?

1. Weight loss
2. Relief of heartburn
3. Reduction of steatorrhea
4. Absence of abdominal pain - CORRECT ANSWER
3. Reduction of steatorrhea

Reduction of steatorrhea

Rationale:

Pancrelipase (Pancrease MT) is a pancreatic enzyme used in clients with pancreatitis as a digestive aid. The medication should reduce the amount of fatty stools (steatorrhea). Another intended effect could be improved nutritional status. It is not used to treat abdominal pain or heartburn. Its use could result in weight gain but should not result in weight loss if it is aiding in digestion.

38.) An older client recently has been taking cimetidine (Tagamet). The nurse monitors the client for which most frequent central nervous system side effect of this medication?

1. Tremors
2. Dizziness
3. Confusion

4. Hallucinations - CORRECT ANSWER 3. Confusion

Rationale:

Cimetidine is a histamine 2 (H₂)-receptor antagonist. Older clients are especially susceptible to central nervous system side effects of cimetidine. The most frequent of these is confusion. Less common central nervous system side effects include headache, dizziness, drowsiness, and hallucinations.

39.) The client with a gastric ulcer has a prescription for sucralfate (Carafate), 1 g by mouth four times daily. The nurse schedules the medication for which times?

1. With meals and at bedtime
2. Every 6 hours around the clock
3. One hour after meals and at bedtime
4. One hour before meals and at bedtime - CORRECT

ANSWER 4. One hour before meals and at bedtime

Rationale:

Sucralfate is a gastric protectant. The medication should be scheduled for administration 1 hour before meals and at bedtime. The medication is timed to allow it to form a protective coating over the ulcer before food intake stimulates gastric acid production and mechanical irritation. The other options are incorrect.

40.) The client who chronically uses nonsteroidal anti-inflammatory drugs has been taking misoprostol (Cytotec). The nurse determines that the medication is having the intended therapeutic effect if which of the following is noted?

1. Resolved diarrhea
2. Relief of epigastric pain
3. Decreased platelet count
4. Decreased white blood cell count - CORRECT ANSWER 2.

Relief of epigastric pain

Rationale:

The client who chronically uses nonsteroidal anti-inflammatory drugs (NSAIDs) is prone to gastric mucosal injury. Misoprostol is a gastric protectant and is given specifically to prevent this occurrence. Diarrhea can be a side effect of the medication, but is not an intended effect. Options 3 and 4 are incorrect.

41.) The client has been taking omeprazole (Prilosec) for 4 weeks. The ambulatory care nurse evaluates that the client is receiving optimal intended effect of the medication if the client reports the absence of which symptom?

1. Diarrhea
2. Heartburn
3. Flatulence
4. Constipation - CORRECT ANSWER 2. Heartburn

Rationale:

Omeprazole is a proton pump inhibitor classified as an antiulcer agent. The intended effect of the medication is relief of pain from gastric irritation, often called heartburn by clients. Omeprazole is not used to treat the conditions identified in options 1, 3, and 4.

42.) A client with a peptic ulcer is diagnosed with a Helicobacter pylori infection. The nurse is reinforcing teaching for the client about the medications prescribed, including clarithromycin (Biaxin), esomeprazole (Nexium), and amoxicillin (Amoxil). Which statement by the client indicates the best understanding of the medication regimen?

1. "My ulcer will heal because these medications will kill the bacteria."
2. "These medications are only taken when I have pain from my ulcer."
3. "The medications will kill the bacteria and stop the acid production."
4. "These medications will coat the ulcer and decrease the acid production in my stomach." - CORRECT ANSWER 3. "The medications will kill the bacteria and stop the acid production."

Rationale:

Triple therapy for *Helicobacter pylori* infection usually includes two antibacterial drugs and a proton pump inhibitor. Clarithromycin and amoxicillin are antibacterials. Esomeprazole is a proton pump inhibitor. These medications will kill the bacteria and decrease acid production.

43.) A histamine (H₂)-receptor antagonist will be prescribed for a client. The nurse understands that which medications are H₂-receptor antagonists? Select all that apply.

1. Nizatidine (Axid)
2. Ranitidine (Zantac)
3. Famotidine (Pepcid)
4. Cimetidine (Tagamet)
5. Esomeprazole (Nexium)
6. Lansoprazole (Prevacid) - CORRECT ANSWER 1.

Nizatidine (Axid)

2. Ranitidine (Zantac)
3. Famotidine (Pepcid)
4. Cimetidine (Tagamet)

Rationale:

H₂-receptor antagonists suppress secretion of gastric acid, alleviate symptoms of heartburn, and assist in preventing complications of peptic ulcer disease. These medications also suppress gastric acid secretions and are used in active ulcer disease, erosive esophagitis, and pathological hypersecretory conditions. The other medications listed are proton pump inhibitors.

H₂-receptor antagonists medication names end with -dine.

Proton pump inhibitors medication names end with -zole.

44.) A client is receiving acetylcysteine (Mucomyst), 20% solution diluted in 0.9% normal saline by nebulizer. The nurse should have which item available for possible use after giving this medication?

1. Ambu bag

2. Intubation tray
3. Nasogastric tube
4. Suction equipment - CORRECT ANSWER
4. Suction equipment

Rationale:

Acetylcysteine can be given orally or by nasogastric tube to treat acetaminophen overdose, or it may be given by inhalation for use as a mucolytic. The nurse administering this medication as a mucolytic should have suction equipment available in case the client cannot manage to clear the increased volume of liquefied secretions.

45.) A client has a prescription to take guaifenesin (Humibid) every 4 hours, as needed. The nurse determines that the client understands the most effective use of this medication if the client states that he or she will:

1. Watch for irritability as a side effect.
 2. Take the tablet with a full glass of water.
 3. Take an extra dose if the cough is accompanied by fever.
 4. Crush the sustained-release tablet if immediate relief is needed. - CORRECT ANSWER
2. Take the tablet with a full glass of water.

Rationale:

Guaifenesin is an expectorant. It should be taken with a full glass of water to decrease viscosity of secretions. Sustained-release preparations should not be broken open, crushed, or chewed. The medication may occasionally cause dizziness, headache, or drowsiness as side effects. The client should contact the health care provider if the cough lasts longer than 1 week or is accompanied by fever, rash, sore throat, or persistent headache.

46.) A postoperative client has received a dose of naloxone hydrochloride for respiratory depression shortly after transfer to the nursing unit from the postanesthesia care unit. After administration of the medication, the nurse checks the client for:

1. Pupillary changes
2. Scattered lung wheezes
3. Sudden increase in pain
4. Sudden episodes of diarrhea - CORRECT ANSWER 3.

Sudden increase in pain

Rationale:

Naloxone hydrochloride is an antidote to opioids and may also be given to the postoperative client to treat respiratory depression.

When given to the postoperative client for respiratory depression, it may also reverse the effects of analgesics. Therefore, the nurse must check the client for a sudden increase in the level of pain experienced. Options 1, 2, and 4 are not associated with this medication.

47.) A client has been taking isoniazid (INH) for 2 months. The client complains to a nurse about numbness, paresthesias, and tingling in the extremities. The nurse interprets that the client is experiencing:

1. Hypercalcemia
2. Peripheral neuritis
3. Small blood vessel spasm
4. Impaired peripheral circulation - CORRECT ANSWER 2.

Peripheral neuritis

Rationale:

A common side effect of the TB drug INH is peripheral neuritis.

This is manifested by numbness, tingling, and paresthesias in the extremities. This side effect can be minimized by pyridoxine (vitamin B6) intake. Options 1, 3, and 4 are incorrect.

48.) A client is to begin a 6-month course of therapy with isoniazid (INH). A nurse plans to teach the client to:

1. Drink alcohol in small amounts only.
2. Report yellow eyes or skin immediately.
3. Increase intake of Swiss or aged cheeses.

4. Avoid vitamin supplements during therapy. - CORRECT ANSWER 2. Report yellow eyes or skin immediately.

Rationale:

INH is hepatotoxic, and therefore the client is taught to report signs and symptoms of hepatitis immediately (which include yellow skin and sclera). For the same reason, alcohol should be avoided during therapy. The client should avoid intake of Swiss cheese, fish such as tuna, and foods containing tyramine because they may cause a reaction characterized by redness and itching of the skin, flushing, sweating, tachycardia, headache, or lightheadedness. The client can avoid developing peripheral neuritis by increasing the intake of pyridoxine (vitamin B6) during the course of INH therapy for TB.

49.) A client has been started on long-term therapy with rifampin (Rifadin). A nurse teaches the client that the medication:

1. Should always be taken with food or antacids
2. Should be double-dosed if one dose is forgotten
3. Causes orange discoloration of sweat, tears, urine, and feces
4. May be discontinued independently if symptoms are gone in 3 months - CORRECT ANSWER 3. Causes orange discoloration of sweat, tears, urine, and feces

Rationale:

Rifampin should be taken exactly as directed as part of TB therapy. Doses should not be doubled or skipped. The client should not stop therapy until directed to do so by a health care provider. The medication should be administered on an empty stomach unless it causes gastrointestinal upset, and then it may be taken with food. Antacids, if prescribed, should be taken at least 1 hour before the medication. Rifampin causes orange-red discoloration of body secretions and will permanently stain soft contact lenses.

50.) A nurse has given a client taking ethambutol (Myambutol) information about the medication. The nurse determines that the

client understands the instructions if the client states that he or she will immediately report:

1. Impaired sense of hearing
2. Problems with visual acuity
3. Gastrointestinal (GI) side effects
4. Orange-red discoloration of body secretions - CORRECT ANSWER

Rationale:

Ethambutol causes optic neuritis, which decreases visual acuity and the ability to discriminate between the colors red and green. This poses a potential safety hazard when a client is driving a motor vehicle. The client is taught to report this symptom immediately. The client is also taught to take the medication with food if GI upset occurs. Impaired hearing results from antitubercular therapy with streptomycin. Orange-red discoloration of secretions occurs with rifampin (Rifadin).

51.) Cycloserine (Seromycin) is added to the medication regimen for a client with tuberculosis. Which of the following would the nurse include in the client-teaching plan regarding this medication?

1. To take the medication before meals
 2. To return to the clinic weekly for serum drug-level testing
 3. It is not necessary to call the health care provider (HCP) if a skin rash occurs.
 4. It is not necessary to restrict alcohol intake with this medication. - CORRECT ANSWER
2. To return to the clinic weekly for serum drug-level testing

Rationale:

Cycloserine (Seromycin) is an antitubercular medication that requires weekly serum drug level determinations to monitor for the potential of neurotoxicity. Serum drug levels lower than 30 mcg/mL reduce the incidence of neurotoxicity. The medication must be taken after meals to prevent gastrointestinal irritation. The client must be instructed to notify the HCP if a skin rash or

signs of central nervous system toxicity are noted. Alcohol must be avoided because it increases the risk of seizure activity.

52.) A client with tuberculosis is being started on antituberculosis therapy with isoniazid (INH). Before giving the client the first dose, a nurse ensures that which of the following baseline studies has been completed?

1. Electrolyte levels
 2. Coagulation times
 3. Liver enzyme levels
 4. Serum creatinine level - CORRECT ANSWER
3. Liver enzyme levels

Rationale:

INH therapy can cause an elevation of hepatic enzyme levels and hepatitis. Therefore, liver enzyme levels are monitored when therapy is initiated and during the first 3 months of therapy. They may be monitored longer in the client who is greater than age 50 or abuses alcohol.

53.) Rifabutin (Mycobutin) is prescribed for a client with active Mycobacterium avium complex (MAC) disease and tuberculosis. The nurse monitors for which side effects of the medication?

Select all that apply.

1. Signs of hepatitis
 2. Flu-like syndrome
 3. Low neutrophil count
 4. Vitamin B6 deficiency
 5. Ocular pain or blurred vision
 6. Tingling and numbness of the fingers - CORRECT ANSWER
1. Signs of hepatitis
 2. Flu-like syndrome
 3. Low neutrophil count
 5. Ocular pain or blurred vision

Rationale:

Rifabutin (Mycobutin) may be prescribed for a client with active MAC disease and tuberculosis. It inhibits mycobacterial DNA-dependent RNA polymerase and suppresses protein synthesis. Side effects include rash, gastrointestinal disturbances, neutropenia (low neutrophil count), red-orange body secretions, uveitis (blurred vision and eye pain), myositis, arthralgia, hepatitis, chest pain with dyspnea, and flu-like syndrome. Vitamin B6 deficiency and numbness and tingling in the extremities are associated with the use of isoniazid (INH). Ethambutol (Myambutol) also causes peripheral neuritis.

54.) A nurse reinforces discharge instructions to a postoperative client who is taking warfarin sodium (Coumadin). Which statement, if made by the client, reflects the need for further teaching?

1. "I will take my pills every day at the same time."
 2. "I will be certain to avoid alcohol consumption."
 3. "I have already called my family to pick up a Medic-Alert bracelet."
 4. "I will take Ecotrin (enteric-coated aspirin) for my headaches because it is coated." - CORRECT ANSWER
4. "I will take Ecotrin (enteric-coated aspirin) for my headaches because it is coated."

Rationale:

Ecotrin is an aspirin-containing product and should be avoided. Alcohol consumption should be avoided by a client taking warfarin sodium. Taking prescribed medication at the same time each day increases client compliance. The Medic-Alert bracelet provides health care personnel emergency information.

55.) A client who is receiving digoxin (Lanoxin) daily has a serum potassium level of 3.0 mEq/L and is complaining of anorexia. A health care provider prescribes a digoxin level to rule out digoxin toxicity. A nurse checks the results, knowing that which of the following is the therapeutic serum level (range) for digoxin?

1. 3 to 5 ng/mL
2. 0.5 to 2 ng/mL
3. 1.2 to 2.8 ng/mL
4. 3.5 to 5.5 ng/mL - CORRECT ANSWER

Rationale:

Therapeutic levels for digoxin range from 0.5 to 2 ng/mL. Therefore, options 1, 3, and 4 are incorrect.

56.) Heparin sodium is prescribed for the client. The nurse expects that the health care provider will prescribe which of the following to monitor for a therapeutic effect of the medication?

1. Hematocrit level
2. Hemoglobin level
3. Prothrombin time (PT)
4. Activated partial thromboplastin time (aPTT) - CORRECT ANSWER

Rationale:

The PT will assess for the therapeutic effect of warfarin sodium (Coumadin) and the aPTT will assess the therapeutic effect of heparin sodium. Heparin sodium doses are determined based on these laboratory results. The hemoglobin and hematocrit values assess red blood cell concentrations.

57.) A nurse is monitoring a client who is taking propranolol (Inderal LA). Which data collection finding would indicate a potential serious complication associated with propranolol?

1. The development of complaints of insomnia
2. The development of audible expiratory wheezes
3. A baseline blood pressure of 150/80 mm Hg followed by a blood pressure of 138/72 mm Hg after two doses of the medication
4. A baseline resting heart rate of 88 beats/min followed by a resting heart rate of 72 beats/min after two doses of the medication - CORRECT ANSWER

Rationale:

Audible expiratory wheezes may indicate a serious adverse reaction, bronchospasm. β -Blockers may induce this reaction, particularly in clients with chronic obstructive pulmonary disease or asthma. Normal decreases in blood pressure and heart rate are expected. Insomnia is a frequent mild side effect and should be monitored.

58.) Isosorbide mononitrate (Imdur) is prescribed for a client with angina pectoris. The client tells the nurse that the medication is causing a chronic headache. The nurse appropriately suggests that the client:

1. Cut the dose in half.
2. Discontinue the medication.
3. Take the medication with food.
4. Contact the health care provider (HCP). - CORRECT ANSWER

Rationale:

Isosorbide mononitrate is an antianginal medication. Headache is a frequent side effect of isosorbide mononitrate and usually disappears during continued therapy. If a headache occurs during therapy, the client should be instructed to take the medication with food or meals. It is not necessary to contact the HCP unless the headaches persist with therapy. It is not appropriate to instruct the client to discontinue therapy or adjust the dosages.

59.) A client is diagnosed with an acute myocardial infarction and is receiving tissue plasminogen activator, alteplase (Activase, tPA). Which action is a priority nursing intervention?

1. Monitor for renal failure.
 2. Monitor psychosocial status.
 3. Monitor for signs of bleeding.
 4. Have heparin sodium available. - CORRECT ANSWER
3. Monitor for signs of bleeding.

Rationale: