Nursing

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Question: 1

The metabolic abnormality associated with end-stage liver disease and uremia is

A. metabolic acidosis
B. metabolic alkalosis.
C. respiratory acidosis.
D. respiratory alkalosis.

Answer: A

Explanation:
Metabolic abnormalities related to uremia include the following:
• Metabolic acidosis: Tubular cells are unable to regulate acid-base metabolism, and phosphate, sulfuric, hippuric, and lactic acids increase, leading to congestive heart failure and weakness.
• Decreased RBC production: Kidney is unable to produce adequate erythropoietin in peritubular cells, resulting in anemia, usually normocytic and normochromic. Parathyroid hormone levels may increase, causing bone marrow calcification, resulting in hypoproliferative anemia as RBC production is suppressed.
• Platelet abnormalities: Decreased platelet count, increased turnover, and reduced adhesion leads to bleeding disorders.
• Hyperkalemia: The nephrons cannot excrete adequate amounts of potassium. Some drugs, such as potassium-sparing diuretics, may aggravate the condition.

Question: 2

The type of insulin most commonly used to treat hyperglycemia post-cardiac transplantation is

A. intermediate-acting NPH insulin, Humulin N, or Novolin N.
B. short-acting regular insulin, such as Novolin R.
C. long-acting (glargine) Lantus insulin.
D. rapid-acting (lispro H) Humalog or (aspart) NovoLog.

Answer: B

Explanation:
Short-acting regular insulin, such as Novolin R. Insulins include:
• Humalog (Lispro H): Rapid-acting, short duration insulin that acts within 5-15 minutes, peaking between 45-90 minutes and lasting 3-4 hours.
• NovoLog (aspart): Rapid-acting, short duration insulin, acting within 5-10 minutes, peaking in 1-3
• hours, and lasting 3-5 hours.

• Regular (R) (Humulin R, Novolin R): Short-acting within 30 minutes, peaking in 2-5 hours, and lasting 5-8 hours.
• NPH (N): Intermediate-tracheostenosis
• Trach acting with onset in 1-3 hours, peaking at 6-12 hours (Humulin N) or 4-12 hours (Novolin N) and lasting 16-24 hours.
• Lantus (glargine): Long-acting insulin with onset in 1 hour and lasting 24 hours with no peak.

Question: 3

Prior to transplantation, a patient must undergo transplant-specific lab work. Which of the following screening tests are routinely performed pre-transplantation?
I. ABO blood typing, human leukocyte antigen (HLA), and panel reactive antibody (PRA)
II. HIV, hepatitis, herpes, Epstein Barr (EBV), herpes simplex, and cytomegalovirus
III. Anti-citrullinated protein antibody (ACPA)
IV. Toxoplasma and tuberculosis

A. I and II
B. I and IV
C. I, III, and IV
D. I, II, and IV

Answer: D

Explanation:
I, II, and IV. ABO blood typing, human leukocyte antigen (HLA), panel reactive antibody (PRA), HIV, hepatitis, herpes, Epstein Barr (EBV), herpes simplex, cytomegalovirus, toxoplasma, and tuberculosis screening is done pre-transplantation in addition to routine blood tests (such as CBC and differential and chem panel). Additionally, patients are screened for pre-existing cancers as immunosuppressive therapy, which increases risk of cancer, may interfere with cancer treatment. Post-menopausal women are also assessed for osteoporosis as immunosuppressive agents increase risk of bone loss.

Question: 4

A kidney recipient presents with high fever, pain at surgical site, leukocytosis, renal allograft dysfunction, and urinary sediment. Which diagnostic test is indicated?

A. Clean-catch midstream urine specimen for culture (bacterial and fungal)
B. Catheterized urine specimen for culture
C. Clean-catch midstream urine specimen for urinalysis
D. Catheterized urine specimen for culture and blood culture

Answer: A

Explanation:
High fever, pain at surgical site, leukocytosis, renal allograft dysfunction, and urinary sediment are consistent with urinary tract infection, such as pyelonephritis. A clean-catch midstream urine specimen

should be obtained for culture (bacterial and fungal). Treatment depends on the results of the culture and sensitivities although treatment may begin with TMP-SMX or fluoroquinolones, which may also be used prophylactically to prevent infection. Routine urine cultures should be obtained after kidney transplant for surveillance purposes.

Question: 5

The age group that is most at risk for non-compliance with pre-cardiac transplantation and post- cardiac transplantation medical regimens and care is

A. 65 to 75.
B. 50 to 65.
C. 25 to 50.
D. 18 to 25.

Answer: D

Explanation:
Those who are 18 to 25 have the lowest survival rates and are most at risk for non-compliance because young adults are establishing their independence and identities and may have difficulty following through with medications and appointments and may be especially stressed by alterations in self-image or peer approval. They may have school or work-related demands that interfere with treatment. Additionally, following surgery, as patients begin to feel better, they may feel unrealistically that they are completely healthy and don't need treatment.

Question: 6

Following heart transplantation, a decrease in the central venous pressure may be related to

A. increased intravascular volume.
B. cardiac tamponade.
C. low intravascular volume.
D. thrombus obstruction.

Answer: C

Explanation:
Decreased CVP is related to low intravascular volume, decreased preload, or vasodilation. Hemodynamic monitoring is the monitoring of blood flow pressures. In order for effective post-surgical cardiac functioning, the correct relationship between high and low pressures must be maintained. Central venous pressure (CVP), the pressure in the right atrium or vena cava, is used to assess function of the right ventricles, preload, and flow of venous blood to the heart. Normal pressure ranges from 2-5 mm Hg but may be elevated after surgery to 6-8 mm Hg. Incorrect catheter placement or malfunctioning can affect readings.

Question: 7

The average length of stay in the hospital for kidney transplant patients is

A. 7 to 10 days.
B. 12 to 14 days.
C. 19 to 32 days.
D. 55 to 72 days.

Answer: A

Explanation:
Length of stay varies according to the patient's condition and type of transplant, but the usual length of stay for kidney transplant patients is about 7 to 10 days (average 8.6). Liver transplant patients usually have a longer stay, averaging 12 to 14 days while the cardiac transplant patient's length of stays has a wider range of 19 to 32 days. Patients receiving small intestine transplants may require about 55 days of hospitalization and up to 72 days if receiving multivisceral transplants.

Question: 8

When educating a patient about the post-transplant complications, which of the following topics should be discussed?
I. Infections
II. Rejection
III. Malignancies
IV. Renal dysfunction

A. I and II
B. I, II, and IV
C. I, II, and III
D. I, II, III, and IV

Answer: D

Explanation:
Infections, rejection, malignancies, and renal dysfunction are all common complications of transplantation and should be covered in patient education. Infection is a high risk after surgery because of immunosuppressive drugs, and patients must be monitored carefully and taught signs of infection. Compliance with treatment regimen is critical to preventing organ rejection. Malignancies may occur as a long-term complication of immunosuppression. Renal dysfunction often occurs as the result of hypovolemia, infection, or drugs that impair renal function, such as calcineurin inhibitors.

Question: 9

Following heart transplantation, increased central venous pressure (CVP), distended neck veins, muffled heart sounds, and hypotension are indications of

A. compartment syndrome.
B. cardiac tamponade.
C. disseminated intravascular coagulation (DIC).
D. myocardial infarction.

Answer: B

Explanation:
Beck's triad (distended neck veins, muffled heart sounds, and hypotension) and increased CVP are indicative of cardiac tamponade. A sudden decrease in chest tube drainage can occur as fluid and clots accumulate in the pericardial sac, preventing the blood from filling the ventricles and decreasing cardiac output and perfusion of the body, including the kidneys (resulting in decreased urinary output). About 50 ml of fluid normally circulates in the pericardial area to reduce friction. A sudden increase in volume can compress the heart, causing a number of cardiac responses:
• Increased end-diastolic pressure in both ventricles.
• Decreased venous return.
• Decreased ventricular filling.

Question: 10

If a lung recipient exhibits stridor and intermittent hypoxemia, which is resolved by coughing up sputum, the most likely diagnosis is

A. primary graft dysfunction.
B. inadequate bronchial anastomosis.
C. pneumothorax.
D. tracheobronchial stenosis.

Answer: D

Explanation:
Stridor and intermittent hypoxemia, which are resolved by coughing up sputum, are characteristic of tracheobronchial stenosis. On palpation, a tracheal rumble may be noted for tracheal stenosis. Bronchial stenosis is most common and may occur at the site of anastomosis or distal to the site. The patient should have an emergent bronchoscopy to confirm diagnosis. CT may be done to show luminal diameter on inspiration and expiration. Treatment may include corticosteroids (high dose) and balloon dilation or stenting.

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