UNIT IX / Responses to Altered Peripheral Tissue Perfusion

NURSING CARE OF THE CLIENT HAVING SURGERY OF THE AORTA

PREOPERATIVE CARE

• As time permits, provide routine preoperative care and teaching as outlined in Chapter 7. Clients having vascular surgery have similar preoperative nursing care needs to other clients having major abdominal or thoracic surgery. If emergent surgery is required, time for preoperative care and teaching may be limited.
• Implement measures to reduce fear and anxiety:
  a. Orient to the intensive care unit, if appropriate.
  b. Describe and explain the reason for all equipment and tubes, such as cardiac monitors, ventilators, nasogastric tubes, urinary catheters, intravenous lines and fluids, and intra-arterial lines.
  c. Explain what to expect following surgery (sights, sounds, frequency of taking vital signs, dressings, pain relief measures, communication strategies).
  d. Allow time for questions and expression of fears and concerns.

These explanations provide a sense of control for the client and family.

POSTOPERATIVE CARE

• Provide routine postoperative care and specific measures as ordered by the physician. Clients undergoing aneurysm repair require nursing care similar to that provided to all clients with major thoracic or abdominal surgery, in addition to specific measures related to vascular surgery.
• Practice Alert. Monitor for and report manifestations of graft leakage:
  a. Ecchymoses of the scrotum, perineum, or penis; a new or expanding hematoma
  b. Increased abdominal girth
  c. Weak or absent peripheral pulses; tachycardia; hypotension
  d. Decreased motor function or sensation in the extremities
  e. Fall in hemoglobin and hematocrit
  f. Increasing abdominal, pelvic, back, or groin pain
  g. Decreasing urinary output (less than 30 mL/hour)
  h. Decreasing CVP, pulmonary artery pressure, or pulmonary artery wedge pressure

These manifestations may signal graft leakage and possible hemorrhage. Pain may be due to pressure from an expanding hematoma or bowel ischemia. Decreased renal perfusion causes the glomerular filtration rate and urine output to fall.
• Maintain fluid replacement and blood or volume expanders as ordered. Promptly report changes in vital signs, level of consciousness, and urine output. Hypovolemic shock may develop due to blood loss during surgery, third spacing, inadequate fluid replacement, and/or hemorrhage if graft separation or leakage occurs.
• Report manifestations of lower extremity embolism: pain and numbness in lower extremities, decreasing pulses, and pale, cool, or cyanotic skin. Pulses may be absent for 4 to 12 hours postoperatively due to vasospasm; however, absent pulses with pain, changes in sensation, and a pale, cool extremity are indicative of arterial occlusion.
• Report manifestations of bowel ischemia or gangrene: abdominal pain and distention, occult or fresh blood in stools, and diarrhea. Bowel ischemia may result from an embolism or occur as a complication of surgery.
• Report manifestations of impaired renal function: urine output less than 30 mL per hour, fixed specific gravity, increasing BUN and serum creatinine levels. Hypovolemia or clamping of the aorta during surgery may impair renal perfusion, leading to acute renal failure.
• Report manifestations of spinal cord ischemia: lower extremity weakness or paraplegia. Impaired spinal cord perfusion may lead to ischemia and impaired function.

• Physical examination: vital signs including blood pressure in upper and lower extremities; peripheral pulses; skin color and temperature; neck veins; abdominal exam including gentle palpation for masses and auscultation for bruits; neurologic exam including level of consciousness, sensation, and movement of extremities

Nursing Diagnoses and Interventions

Nursing care for clients with an aneurysm of the aorta or its branches focuses on monitoring and maintaining tissue perfusion, relieving pain, and reducing anxiety. Nursing care usually is acute, precipitated by a complication or surgical repair of the aneurysm.

Risk for Ineffective Tissue Perfusion

Clients with aortic aneurysms are at risk for impaired tissue perfusion due to aneurysm rupture with resulting hemorrhage and lack of blood flow to tissues distal to the rupture. In addition, thrombi often form within the aneurysm and may become emboli, obstructing distal arterial blood flow.

• Implement interventions to reduce the risk of aneurysm rupture:
  a. Maintain bed rest with legs flat.
  b. Maintain a calm environment, implementing measures to reduce psychologic stress.
  c. Prevent straining during defecation and instruct to avoid holding the breath while moving.
  d. Administer beta blockers and antihypertensives as prescribed.

PRACTICE ALERT

Immediately report manifestations of impending rupture, expansion, or dissection of the aneurysm: increased pain; discrepancy between upper and lower extremity blood pressures and peripheral pulses; increased mass size; change in LOC or motor or sensory function; laboratory results. Rapid expansion may indicate increased risk for rupture, with resulting hemorrhage, shock, and possible death. Elective or planned surgery may rapidly become emergency surgery to prevent complications.

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