Perform neurologic assessment every 2 hours or as needed.

A Client with a Subdural Hematoma

Risk for Ineffective Breathing Pattern related to pressure on respiratory center by intracranial hematoma

Ineffective Cerebral Tissue Perfusion related to increased intracranial pressure secondary to cerebral edema

Monitor for changes in vital signs: bradycardia or tachycardia, related to increased intracranial pressure secondary to cerebral edema. Monitor for vomiting, headache, lethargy, restlessness, purposeful movements, and changes in mental status. Cushing’s triad (bradycardia, increased systolic blood pressure, and increased pulse pressure) indicates brainstem ischemia leading to cerebral herniation.

Monitor for vomiting, headache, lethargy, restlessness, purposeless movements, and changes in mental status. These manifestations may be early indicators of intracranial pressure changes.

Monitor temperature and initiate hypothermia treatment as prescribed. Impaired hypothalamic function can interfere with temperature regulation. Hyperthermia may increase ICP.

Monitor fluid status: Regularly compare intake and output, review serum osmolality, and use infusion pump to administer IV fluids (if prescribed). Osmotic diuretics, if used to treat cerebral edema, may cause hypotension and decreased cardiac output.

Expected outcomes

Maintain a respiratory rate and rhythm within normal limits.

Maintain adequate cerebral perfusion, as evidenced by stable vital signs, stable neurologic status, and no decrease in level of consciousness.

Planning and implementation

Perform neurologic assessment every 2 hours or as needed.

Monitor vital signs every 2 hours or as needed.

Explain to the family the procedure for intracranial surgery.

Evaluation

The first day postoperatively, Mr. Lee begins breathing on his own without ventilatory support. His respiratory rate and rhythm are within normal limits, with no signs of abnormal breath sounds. The ICP monitor readings are appropriate, and Mr. Lee shows significant improvement in level of consciousness, with a Glasgow Coma Scale score of 15. Mr. Lee continues to improve and is discharged to home 5 days after surgery.

Critical thinking in the nursing process

1. Describe the similarities and differences between Mr. Lee’s disorder and the manifestations of other types of intracranial hematomas.

2. Mr. Lee kept trying to pull out his ICP line. You know he should not be restrained, because pulling against restraints increases restlessness and increases intracranial pressure. What would you do?

3. Write a care plan for Mr. Lee for the nursing diagnosis Acute Confusion.

See Evaluating Your Response in Appendix C.

Wong Lee is a 50-year-old tug boat mechanic who is married and has three sons. Although Mr. Lee has been through rehabilitation twice for alcoholism, he has not been able to quit drinking. His physician has explained the physical consequences and the possible interaction between alcohol and the anticoagulant Mr. Lee is taking for chronic atrial fibrillation. While attending a family reunion, during which he eats a large meal and drinks several beers, Mr. Lee joins a game of softball. Mrs. Lee is concerned that Mr. Lee has consumed too much alcohol to play ball in the heat, but Mr. Lee is adamant and states that he wants to pitch. During the end of the second inning, the batter hits a ball that strikes Mr. Lee in the head. Mr. Lee stumbles and drops to the ground, holding his head. He does not lose consciousness and gets up on his own. His sons and wife try to persuade him to go to the hospital, but Mr. Lee insists he feels fine.

Two weeks later, after an evening of consuming several mixed drinks, Mr. Lee develops a headache. He attributes the headache to a hangover, but instead of improving the next day, the headache becomes steadily worse. He becomes confused and disoriented. His wife, concerned that his drinking is increasing again, calls the physician, who admits Mr. Lee to the detoxification center at the local hospital. A CT scan is performed. The diagnosis of a subdural hematoma is made, and Mr. Lee is transferred to the neurosurgical unit.

Assessment

When Saundra Knight, the nurse on the neurosurgical unit, enters the room, she notices that Mr. Lee is sitting in bed, laughing and giddy. As she begins to talk to Mr. Lee, he states, “Don’t ask me anything—I can’t think. My headache is getting worse.” Over the next few hours, the giddiness subsides, and Mr. Lee becomes drowsy. Ms. Knight reports a Glasgow Coma Scale score of 11. An ICP monitor is inserted and reveals increased intracranial pressure. Mr. Lee is scheduled to have burr holes and hematoma evacuation that afternoon.

This close monitoring provides early recognition and treatment of problems and complications, and initiation of aggressive forms of therapy that may be needed.

Many nursing diagnoses associated with traumatic brain injury correspond with those outlined previously in the sections on the client with altered LOC and IICP. Specific nursing diagnoses discussed in this section focus on problems with intracranial adaptive capacity, airway clearance, and breathing patterns.

Decreased Intracranial Adaptive Capacity

The client with a traumatic brain injury has or is at high risk for ICP. As the mechanisms that normally compensate for changes in intracranial pressure are compromised, intracranial pressure increases in disproportional response to a variety of stimuli. (See the discussion earlier in the chapter for other nursing diagnoses and interventions for the client with IICP.)

- Monitor for manifestations of IICP, including eye opening response, motor response, and verbal response. These responses evaluate the ability to integrate commands with conscious and involuntary movement.

- Monitor for changes in vital signs: bradycardia or tachycardia, varying breathing patterns, hypertension, and/or widening pulse pressure. Vital signs vary depending on the site of impairment. Cushing’s triad (bradycardia, increased systolic blood pressure, and increased pulse pressure) indicates brainstem ischemia leading to cerebral herniation.

- Monitor for vomiting, headache, lethargy, restlessness, purposeless movements, and changes in mental status. These manifestations may be early indicators of intracranial pressure changes.

- Monitor temperature and initiate hypothermia treatment as prescribed. Impaired hypothalamic function can interfere with temperature regulation. Hyperthermia may increase ICP.

- Monitor fluid status: Regularly compare intake and output, review serum osmolality, and use infusion pump to administer IV fluids (if prescribed). Osmotic diuretics, if used to treat cerebral edema, may cause hypotension and decreased cardiac output.