Altered Mental Status in the Geriatric Patient

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Objectives

- Define altered mental status
- List techniques of assessing the elderly patient with altered mental status
- List the signs, symptoms, and treatment of the elderly patient with mental status change related to
  - Alcohol and drug abuse
  - Acidosis
  - Seizure disorder
  - Metabolic disorders
  - Cardiovascular disease
  - Medication and non-medication related toxic exposures
  - Stroke
  - Infection

Introduction

- Altered Mental Status (AMS) in the Elderly Patient
  - What is altered mental status?:
    - A term that can describe both the level of alertness or consciousness **and/or**
    - Alterations in cognitive function (Ann Emerg Med).
  - How is AMS identified?
    - Assessment
    - AVPU
    - Physical Exam

Assessment

- History
  - Past Medical History
    - Obtain as much of the patient's medical history as possible directly from the patient.
    - Determine if the patient is functioning at a decreased level of awareness than normal.
    - If the patient is unable to provide the necessary information:
      - Ask a family member, caregiver, or medical personnel
      - Check for medical alert identification
      - Check for medical information sheet (i.e. on refrigerator)
      - Check surrounding environment (i.e. living quarters, alcohol bottles or drug paraphernalia)

Assessment

AVPU

- Alert: awake and oriented, opens eyes.
- Verbal Stimuli: responds to voice by opening eyes, moaning, moving.
- Painful Stimuli: responds to painful stimuli, pinch of fingernail, sternal rub.
- Unresponsive: no response to any stimuli

Assessment

- "DO NOT assume that a confused, disoriented patient is "just senile," thus failing to assess for a serious underlying problem"

(Bledsoe vol.5, 2001).

Assessment

• Once the initial level of responsiveness has been established, it may be helpful to use the mnemonic **"AEIOU-TIPS"** to identify some of the causes of altered mental status.

- A – Alcohol, Acidosis
- E – Epilepsy, Endocrine
- I – Infection
- O – Overdose, Opiates
- U – Uremia (kidney failure)
- T – Trauma, Toxins, Tumor
- I – Insulin
- P – Psychosis, Poison
- S – Stroke, Seizure

Neuro

- Thorough neuro exam
  - Focal neuro deficits (stroke)
    - Facial droop
    - Unilateral weakness
  - Asterixis (metabolic disorders, liver failure, dilantin or other toxicity)
  - Pupils dilated, pinpoint, sluggish, unequal
    - Narcotics, brain swelling or hemorrhage, other disorders

Assessment

- Physical Exam – General
  - Expose any hidden injuries
  - Meningeal signs (stiff neck)indicating meningitis or subarachnoid hemorrhage

Skin findings

- Pale (anemia/ blood loss)
- Track marks (drug abuse)
- Fever (infection)
- Rash (infection)

Cardiovascular findings

- Bradycardia/Tachycardia
- Hypotension/Hypertension
- Abnormal pulses or pulsatile abdominal mass (AAA)

Respiratory findings

- Kusmal respirations (deep heavy breathing) indicating a metabolic acidosis such as diabetic Ketoacidosis
- Any respiratory distress may cause mental status changes by causing hypoxia or hypercarbia

Causes & Treatment

- A – Alcohol, Acidosis
  - Mental status changes may occur because a patient may have ingested too much alcohol, is withdrawing from alcohol or drugs (i.e. delerium tremens), or has been using street drugs.
  - Another cause may be acidosis, or the condition where there is a buildup of acid in the blood stream or the *loss* of bicarbonate in the blood stream that raises the pH.

Causes & Treatment

- A – Alcohol, Acidosis
  - Alcohol
    - Wernicke's Syndrome (Wernicke's Encephalopathy)– loss of memory and disorientation usually due to a chronic intake of alcohol and a diet lacking in thiamine.
    - Signs & Symptoms:
      - Acute onset; reversible, affects CNS
      - Ataxia (lack of muscle coordination)
      - Eye muscle weakness,
      - Nystagmus (involuntary movement of the eyes)
      - Mental confusion
    - Mechanism:
      - Thiamine deficiency – affecting only some patients, the alcohol decreases the effectiveness of an enzyme in the brain to metabolize cerebral glucose, that leads to the above symptoms (Cotran, Kumar, & Robbins, 1999).

Causes & Treatment

- Alcohol continued
  - Treatment:
    - 100mg Thiamine IV or IM
    - Follow local protocols or contact medical direction
  - Korsakoff's Psychosis/Syndrome – memory disorder, more severe than Wernicke's, usually long-term
    - Signs & Symptoms:
      - Memory impairment
      - Disorientation, delirium, delusions
      - Hallucinations, insomnia
      - Bilateral foot drop
      - Pain on pressure over long nerves
    - Mechanism:
      - Direct toxicity (of ethanol) from long-term use of alcohol and thiamine deficiency.

Causes & Treatment

- Korsakoff's Psychosis/Syndrome continued

  - Treatment:
    - 100mg Thiamine IV or IM
    - Follow local protocols or contact medical direction

    - Note: Korsakoff's psychosis/syndrome may not readily respond to the administration of thiamine. It is also difficult to diagnose new onset of Korsakoff's in the pre-hospital setting without knowledge of past medical history. Always follow local protocols or contact medical direction.

Causes & Treatment

- Acidosis
  - Types of Acidosis
    - Respiratory acidosis – retention of CO_2 caused by inadequate ventilation.
    - Diabetic ketoacidosis – buildup of ketone bodies in advanced stages of diabetes mellitus.
    - Lactic acidosis – buildup of lactic acid in the blood due to poor perfusion and oxygenation of vital organs.
    - Metabolic acidosis – a decrease of pH in the body due to the retention of acids or a lack of bicarbonate. Can be caused by vomiting, diarrhea, diabetes, or medications.
    - Renal acidosis – buildup of phosphoric and sulfuric acids due to renal failure or renal tubular diseases.

Causes & Treatment

- Signs & Symptoms:
  - Confusion
  - Lethargy
  - Drowsiness
  - Headaches
  - Muscle tremors
  - Blurred vision
- Treatment
  - Respiratory acidosis – Improve ventilation, high-flow oxygen.
  - Diabetic ketoacidosis – Fluids, insulin as directed
  - Metabolic acidosis – Fluids, control any seizure activity.
  - Renal acidosis – Monitor patient for changes in mental status or respiratory rate. Patient may receive sodium bicarbonate at the hospital.

Causes & Treatment

- E – Epilepsy, Endocrine
  - Epilepsy – repeated seizure activity
    - Prevalent in 2-3% of population, especially children and elderly over the age of 70 (Taber, Thomas, & Venes, 2001).
    - An alteration in activity due to a massive electrical discharge by neurons in the brain.
    - Mechanism:
      - May develop as a result of stroke, tumor, trauma, encephalitis, meningitis, alcohol withdrawal, frequent severe hypoglycemia, among other illnesses.
    - Signs & Symptoms:
      - Loss of consciousness
      - Falling
      - Incontinence
      - Hypoxia
      - Tonic-clonic convulsions
      - Aura

Causes & Treatment

- Treatment
  - Obtain a history – past , recent, drug or alcohol abuse, medications.
  - Maintain the airway – do NOT place objects inside the patients mouth or between teeth as the patient may vomit.
    - Remove objects in the immediate area away from the patient to prevent them from harm during seizure activity.
  - High-flow oxygen
  - IV access with fluids
  - Determine glucose level – administer 50% dextrose if hypoglycemic.

Causes & Treatment

- Treatment cont.
  - Actively seizing – administer 5-10mg diazepam IV push for an adult
    - Follow local protocols or contact medical direction.
  - Continue to monitor the patient
  - Postictal States – following most seizures, the patient may exhibit a decreased level of consciousness, disorientation, amnesia, or headache (Bledsoe, 2001; Marx, Hockberger, & Walls, 2002).

Causes & Treatment

- Endocrine – the lack of or over production of some hormones may cause changes in mental status.
  - For example, the amount of insulin produced or not produced can cause a person to become hypo- or hyperglycemic.

Causes & Treatment

- I – Infection
  - An infection in the body may occur for a variety of reasons. For example, some are due to HIV, gonorrhea, pneumonia, meningitis, and encephalitis.

    - Mechanism
      - Infections are typically caused by bacteria (i.e. mycobacteria, mycoplasmas, spirochetes), viruses, or other disease causing agents (Tintinalli, 2004; Taber et al., 2001).

      - Elderly patients are more susceptible to infection since they tend to have weak or suppressed immune systems.

Causes & Treatment

- Signs & Symptoms
  - Depending on how the infection has progressed, signs and symptoms will vary.
  - The most common sites for infection in elderly are: lungs, urinary tract, abdomen, and skin (Tintinalli, 2004).
  - Changes in mental status
  - Flushed skin
  - Difficulty breathing, altered lung sounds
  - Hypotension
  - High fever; however in elderly patients a fever may be absent or they could be hypothermic.
  - If the patient does present with a fever, it is not uncommon that the patient is septic.
  - Assess for signs of sepsis (also called septicemia, bacteremia), where shock may develop due to the release of toxins in the blood stream and can affect multiple organs (Bledsoe vol. 3, 2001).

Causes & Treatment

- Treatment
  - High-flow oxygen
  - IV fluids
  - Cardiac monitor – correct any dysrhythmias
  - Monitor the patient
  - Follow local protocols
  - Upon arrival to the hospital, antibiotic therapy will follow

Causes & Treatment

- O – Opiates, Overdose
  - Elderly patients are more likely to be on multiple medications or have multiple illnesses.
  - The rate of absorption differs from that of children and adults in that elderly patients have slower absorption of oral medications due to a decrease in gastrointestinal motility.
    - Medications that are typically protein bound may be left unattached since the concentration of plasma proteins has decreased, ultimately decreasing the distribution of medication.
    - Medications that are fat soluble will tend to accumulate in body fat since body fat increases with age and muscle mass decreases, which also affects the distribution of available medication.

Causes & Treatment

- Opiates
  - Opiates are narcotic pain medications or street drugs that affect the opiate receptors in the brain and body.
  - Signs & Symptoms
    - CNS Depression
    - Miosis (constricted pupils)
    - Respiratory depression (death is usually respiratory)
    - Late signs: Hypothermia, bradycardia, death (i.e. respiratory arrest)
  - Treatment
    - Manage the patient's airway
    - High-flow oxygen
    - IV fluids
    - If narcotic overdose is suspected, administer Narcan (naloxone), 0.4mg – 1mg IV or IM.
    - IMPORTANT: use caution as you may elicit a withdrawal reaction in chronic opiate abusers.

Causes & Treatment

- Overdose
  - Overdose may occur for a number of reasons in the elderly patient. Reasons include:
    - Polypharmacy (multiple medications)
    - Intentional (suicide)
    - Unintentional (miscalculation, recreational)
    - Abuse (intentionally given inappropriate dose by caregiver)
  - Treatment:
    - Assess airway, breathing, circulation
    - Oxygen as needed
    - IV fluids
    - Monitor the patient
    - Follow local protocols

Causes & Treatment

- U – Uremia
  - Byproducts that accumulate in the blood due to decreased kidney function or failure.
  - A progressive decline in the glomerular filtration rate (GFR) to 15% to 20% of normal function when clinical signs appear (Marx et al., 2002).
    - GFR = the rate at which urine is produced
  - No single sign, symptom, or laboratory test is accurate enough to diagnose all aspects of uremia (Tintinalli, 2004).
  - Chronic renal failure (CRF) – the inability of the kidneys to function properly due to a significant loss of nephrons.
  - More than half of all CRF cases are caused by diabetes mellitus and hypertension (Bledsoe vol.3, 2001).
  - Approximately 30,000 new cases are diagnosed annually.
    - Greater than 250,000 Americans have end-stage renal failure.
    - More than 50,000 die from kidney disease each year

Causes & Treatment

- Signs & Symptoms
  - Decreased attentiveness
  - Memory loss
  - Slurred speech
  - Encephalopathy
  - Dehydration
  - Edema
  - Seizure, coma
  - Hyperkalemia
  - Hypotension
  - Hypertension
  - Coronary artery disease
  - Anorexia, metallic taste, nausea, vomiting
  - GI bleeding
  - Diverticulosis

(Cotran et al., 1999; Marx et al., 2002)

Causes & Treatment

- Signs & Symptoms continued
  - There are several conditions relating to uremia that may cause changes in mental status:
    - Dialysis dementia – progressive decrease in mental status
      - Fatal, fails to improve with dialysis or kidney transplant
      - Usually evident after at least 2 years of dialysis
      - Associated with high levels of aluminum found in the brain
    - Uremic encephalopathy – decreased alertness, memory loss, cognitive defects.
      - Diagnosis may include ruling out other potential causes, psychometric testing, and determining levels of Na^+ K^+ ATPase activity and an increase in brain calcium; which could affect neurological functioning (Tintinalli, 2004).
      - Condition usually improves with dialysis.

Causes & Treatment

- Treatment
  - O_2, IV, cardiac monitor

  - Small bolus of IV fluids if hypotensive. Caution: Act conservatively with fluids as these patients have difficulty processing them.

  - Sodium Bicarbonate or Calcium Chloride if hyperkalemic.
    - In patients with some renal function still available, a diuretic such as Lasix (furosemide) may be appropriate.

  - Dialysis

  - Always follow local protocols or contact medical direction.

  - Many of these treatments will occur within the hospital setting. Changes in mental status may not be drastically noted prehospitally, however, your awareness of potential renal compromise may improve the patient's outcome.

Causes & Treatment

- Toxins, Trauma
  - Toxins
    - Changes to the liver, kidney, and GI system in the elderly as they age also affects how medications are absorbed and eliminated from the body.
    - The decrease in absorption and elimination may potentiate side effects of some medications and result in toxic levels.
    - It is important to obtain a list of all medications the patient is taking, including any new medications, as well as a past medical history.

Causes & Treatment

- Common medications that can cause toxic effects:
  - Beta-blockers – used to treat hypertension, angina pectoris, cardiac dysrhythmias.
    - Symptoms of toxicity: may include changes in mental status which can happen rapidly, depression, lethargy, sleep disorders, hypotension, bradycardia, hypoglycemia.
    - Treatment: maintain a patent airway, provide oxygen, IV access.
      - Glucagon – used to treat acute cases of β-blocker toxicity and associated hypotension. Glucagon works by triggering cardiac enzymes independent of β-receptor stimulation to produce positive inotropic and chronotropic effects (Tintinalli, 2004).

Causes & Treatment

- Emptying of Gastric Contents – do NOT administer syrup of ipecac. Toxicity of β-blockers can cause a rapid decline in mental status that can increase the risk of aspiration.
  - Gastric lavage may be beneficial if it can be accomplished within 1 to 2 hours of ingestion and prior to activated charcoal (Tintinalli, 2004).
  - Activated charcoal
  - Atropine – can be used to treat bradycardia.
- Commonly prescribed β-blockers:
  - Nadolol
  - Atenolol
  - Sotalol
  - Timolol
  - Labetalol
  - Metoprolol
  - Propranolol hydrochloride (Inderal)

Causes & Treatment

- Common medications that can cause toxic effects:
  - Calcium Channel Blockers – used to treat hypertension, angina pectoris, supraventricular dysrhythmias.
    - Symptoms of toxicity: patients are often hypotensive, have sinus bradycardia, or an atrioventricular block. Secondary effects are usually to the pulmonary and central nervous system and are associated with the decreased myocardial function and hypoperfusion (Tintinalli, 2004).
    - Symptoms may be delayed as much as 12 hours.

Causes & Treatment

- Treatment: maintain a patent airway, provide oxygen, IV access.
  - Calcium Chloride or Calcium Gluconate
  - Dopamine
  - Glucagon
  - Insulin
  - Atropine or pacing if symptomatic bradycardia
  - Follow local protocols or contact medical control.

- Commonly prescribed calcium channel blockers:
  - Verapamil
  - Diltiazem
  - Nifedipine

Causes & Treatment

- Common medications that can cause toxic effects:
  - Digitalis (Digoxin, Lanoxin) – used for congestive heart failure (CHF), atrial fibrillation, atrial flutter, paroxysmal atrial tachycardia, cardiogenic shock.
    - Symptoms of toxicity: mental status changes, confusion, headaches, drowsiness, anorexia, nausea, vomiting, weakness, delirium, seizures.
    - Elderly are more susceptible, especially those taking digoxin and diuretics (Tintinalli, 2004).
    - Increased toxicity is predisposed by hypokalemia, hypomagnesia, and hypercalcemia.

Causes & Treatment

- Treatment: maintain a patent airway, provide oxygen, IV access.
  - Obtain a past and recent medical history
  - Activated charcoal
  - Treat cardiac dysrhythmias according to ACLS guidelines.
  - Reassess and continue monitoring the patient.
  - Follow local protocols or contact medical control.

Causes & Treatment

- Trauma – 20% of trauma patients are aged 65 or older.
  - 28% of trauma deaths are elderly (Mandavia & Newton, 1998).
  - Factors that contribute to trauma in the elderly:
    - Arthritis
    - Slower reflexes
    - Diminished eye sight and hearing
    - Osteoporosis and muscle weakness
    - Decreased cardiac, respiratory, and renal function
    - Increased susceptibility to tearing of blood vessels due to decreased elasticity (Bledsoe vol.5, 2001).

Causes & Treatment

- Leading Causes of trauma:
  - Falls (the most common), motor vehicle collisions, pedestrian accidents, burns, assault or abuse, and underlying medical problems (Bledsoe vol. 5, 2001; Tintinalli, 2004).
  - Why did the patient fall?
    - What type of event was there prior to the fall?
    - Does the patient remember falling?
    - Were they dizzy, confused, disoriented?
    - Did they trip on an object?
    - Were they pushed?
  - These are just a few questions to ask elderly patients who have fallen to help you get a better understanding of an underlying cause of the altered mental status.

Causes & Treatment

- Treatment
  - Determine how the patient was injured
  - Maintain C-spine precautions if necessary
  - Manage ABCs
  - Provide high-flow oxygen, IV, monitor
  - Cervical collar and long-board immobilization, if necessary.
    - Explain to the patient why they are being placed in a collar and on a long board.
    - Pad any extraneous spaces (i.e. behind the neck, lumbar, or legs), as elderly patients tend to have curvature of the back or have difficulty fully extending their legs.
  - Reassess and monitor the patient
  - Be gentile! Remain calm and courteous.

Causes & Treatment

- I – Insulin
  - Insulin Shock – also known as hypoglycemia; high insulin, low blood glucose.
  - The brain is the only organ that uses glucose as its primary energy source. The lack of glucose can cause the following signs and symptoms.
    - Signs & Symptoms: altered mental status, diaphoresis, tachycardia, seizure, coma.
      - Hypoglycemia can develop rapidly and without warning.
    - Treatment: maintain ABCs, provide oxygen, IV access.
      - Check blood glucose levels
      - Administer 50% Dextrose IVP
      - If unable to establish an IV, administer Glucagon IM
      - Re-check blood glucose level
      - Reassess mental status and monitor patient
      - Follow local protocols or contact medical control

Causes & Treatment

- Hyperglycemia – a lack of insulin.
  - Body cells are unable to take in glucose, resulting in an excess that is excreted in the urine.
  - Two types: Diabetic ketoacidosis (DKA) and Hyperglycemic hyperosmolar nonketotic (HHNK).

Causes & Treatment

Diabetic Ketoacidosis (DKA)

- **Causes:** lapse or cessation of insulin injections, stress caused by an infection or surgery that can release catecholamines, potentiating glucagon effects and blocking the effects of insulin.
- **Signs & Symptoms:** Polyuria, polydipsia, polyphagia, nausea, vomiting, abdominal pain, tachycardia, deep, rapid respirations, fruity odor on breath, fever.
- **Treatment:** O_2, IV, monitor, fluids, insulin as directed.

(Bledose vol. 3, 2001)

Hyperglycemic Hyperosmolar Nonketotic (HHNK) Acidosis

- **Causes:** physiologic stress (i.e. infection or stroke), resulting hyperglycemia and noncompensated diuresis, altered by insulin and glucose activity.
- **Signs & Symptoms:** decreased mental status, Polyuria, polydipsia, polyphagia, orthostatic hypotension, tachycardia, coma.
- **Treatment:** O_2, IV, monitor, fluids, insulin as directed.

Causes & Treatment

- P – Psychosis, Poison
  - Psychosis – a disorder where an individual loses contact with reality that present with disorganized speech patterns, delusions, hallucinations, or bizarre behavior.
    - Commonly found in schizophrenia, mania, substance abuse, substance withdrawal, or side effects of medication.
    - Signs & Symptoms
      - Unusual ideas (ability to read minds of others)
      - Auditory or visual hallucinations
      - Suicidal or destructive thoughts
      - Agitated, combative, paranoid, or frightened

Causes & Treatment

- Treatment
  - Assure scene safety
  - Maintain a supportive and calm environment
  - Treat immediate medical conditions
  - If the patient is suicidal, do not leave alone
  - Refrain from confrontation or arguing with the patient.
  - Respond to the patient with simple and direct answers.
  - Transport to the closest, most appropriate receiving facility.

Causes & Treatment

- Poisoning - In this section, poisoning will refer to non-medication and non-drug/alcohol exposure.
  - Poisoning may occur from a variety of substances such as cleaning agents, carbon monoxide, or toxic vapors.
  - Poisoning may have both immediate and delayed effects.

  - Routes of Exposure
    - Ingestion (household products, foods)
    - Inhalation (ammonia, toxic gasses, chlorine)
    - Surface Absorption (organophosphates; i.e. pesticides)
    - Injection (bees, jellyfish)

Causes & Treatment

- Signs & Symptoms
  - Ingestion: burns to the lips, mouth, throat can be immediate. Delayed effects may include absorption in the GI tract.
  - Inhalation – pulmonary irritation and/or edema, hypoxemia, lethargy, dizziness, confusion.
  - Surface Absorption – irritation to skin or mucosa, rhinorrhea, vomiting.
  - Injection – red, inflamed, edematous skin at site of injection, allergic or anaphylactic reaction.

Causes & Treatment

- Treatment
  - Assure personal and partner safety
  - Request additional resources if necessary (i.e. fire, police).
  - Maintain airway, breathing, circulation
  - O_2, IV, monitor
  - Decontaminate patient
  - **R**educe intake of toxin – i.e remove the patient from toxic environment, but only if you are trained and properly equipped to do so.
    - Remove stinger from a bee sting
    - Flush patient with water if toxin is on skin or remove clothing.

Causes & Treatment

- Treatment continued
  - **R**educe absorption in the body – typically after toxins have been ingested, they remain in the stomach and small intestines to be absorbed.
    - Do NOT use syrup of ipecac, as it is no longer acceptable. Absorption has only been reduced by 30% (leaving 70% to be absorbed), increases the risk for aspiration, and limits the use of other oral antidotes.
    - Gastric lavage (pumping the stomach), when initiated within 1 to 2 hours of ingestion, has shown to be effective.
  - **E**nhance elimination - increase gastric motility to shorten time toxin is in the GI tract; i.e. by using cathartics such as sorbitol. Use with caution! They may cause drastic shifts of fluids and electrolytes.

Causes & Treatment

- S – Stroke, Seizure
  - Stroke – The third leading cause of death and the number one leading cause of disability in adults (MMWR, 2004).
  - 2% of 911 calls and 4% of hospital admissions involve potential stroke patients (Rosen vol.2, 2002).
  - A stroke can be defined as a sudden loss of neurological function that may be caused by a decrease in cerebral blood flow (Marx et al., 2002; Taber et al., 2004).
  - Hypertension is present in 80-90% of patients who experience a stroke; 20% of patients have atrial fibrillation.
  - Early identification of stroke is necessary to prevent some deficits that may become irreversible.

Causes & Treatment

- Types of Stroke
  - Ischemic – diminished blood supply, usually from an embolus.
    - Many first-time strokes (10-15%) are transient ischemic attacks (TIA).
    - Most TIAs last less than 30 minutes, but can vary in length.
    - May be caused by a solid, liquid, or gas that obstructs a cerebral artery and typically originates from the heart (Marx et al, 2002).
    - Risk Factors: age (>65), smoking, diabetes, atrial fibrillation, hyperlipidemia, myocardial infarction.
    - Patients may experience a severe headache or awake suddenly during the night with altered mental status or loss of neurological function.

Causes & Treatment

- Types of Stroke
  - Hemorrhagic – usually occurs within the brain or in the subarachnoid space.
    - Often sudden and with a severe headache, vomiting, high blood pressure, progression of neurologic deficit usually rapid.
    - Can be a result of microvascular hemorrhages, arterial abnormalities and aneurisms, or trauma.
    - Common in the elderly, and after sudden increases in blood pressure due to medications or drugs.

Causes & Treatment

- Signs & Symptoms
  - Onset may be sudden
  - Loss of function may be temporary or permanent
  - Headache or confusion
  - Facial droop
  - Neurological deficits that include difficulty or inability to speak, weakness, unsteady gait.
  - Dizziness
  - Incontinence
  - Coma

Causes & Treatment

- Treatment
  - Treatment should be rapid (to reduce on-scene time)
  - Maintain airway, breathing, circulation
  - Administer oxygen
  - Establish IV and place on cardiac monitor
  - Obtain glucose level
    - Use caution if administering dextrose as it may worsen ischemia. Only give to patients with a strong suspicion for hypoglycemia.
  - Obtain history
  - Determine if the patient is candidate for thrombolytic therapy

Additional Causes

- Dementia
  - A disease where mental function, memory, thought process, among other deficits progressively and irreversibly decline.
    - Most commonly found in the elderly and can occur in all ethnic groups.
  - Dementia vs. Delirium: delerium differs from dementia in that **delirium** is an **acute** state of confusion or altered awareness which may include points of hyperalertness or drowsiness (Levesque, 2001).
  - Delirium often is accompanied by delusions (or a false sense of reality) and can disrupt day/night cycles.
  - However, delirium may coexist with dementia.
  - The most common cause of dementia is Alzheimer's disease (Levesque, 2001).

Dementia

- Cerebrovascular Disease – dementia relating to cerebrovascular disease previously thought to be from "hardening of the arteries."
  - Infarcts and lesions in various lobes can contribute to dementia in cerebrovascular disease.
  - Hypertension and diabetes significantly increase the risk for infarctions.
  - Treatment involves monitoring hypertension closely while maintaining adequate perfusion to prevent further deterioration.

- Depression – can coexist with Alzheimer's disease and can cause pseudodementia (impaired thinking resembling dementia, however is a result of depression).

(Levesque, 2001)

Dementia

- Treatment
  - Search for reversible causes: Vitamin B_{12} deficiency, alcohol related, and neurosyphilis among other causes.
  - Maintain airway, breathing, circulation
  - Administer oxygen if needed
  - Provide supportive care
  - Monitor the patient
  - Medications used to treat Alzheimer's disease: Tacrine & Donepezil
  - Penicillin for neurosyphilis

Elder Abuse

- As the population continues to grow older, the problem of elder abuse is also expected to grow.
- Elder abuse may be caused by many factors:
  - Increased life expectancies which may include a dependency on others
  - A decrease in productive years
  - Physical and mental impairments
  - Stress on family, friends or caregivers
  - Middle-aged responsible for two generations, children and parents

Elder Abuse

- Types of elder abuse include:
  - Domestic – occurring in their home or their caregiver's home, by a family member or caregiver.
  - Institutional – occurring in a facility for elderly.
  - Self-neglect or abuse – failure to provide themselves with basic needs, eating, medications, etc., or physical harm.
  - Physical – intentional use of force to produce injury
  - Sexual – assault, verbal, physical.
  - Emotional or Psychological – pain and suffering through verbal and nonverbal means; i.e. name calling, threats, isolation.
  - Neglect – failure or refusal of care; can be intentional or unintentional.
  - Abandonment – desertion by a party responsible for care.
  - Financial or material – improper use of money, property, or assets.

Elder Abuse

- What if I suspect elder abuse?
  - Look for evidence of unexplained trauma.
  - DO NOT confront family or caregiver.
  - Document your findings
  - In many states, prehospital personnel are required by law to report suspected elder abuse or neglect.
  - Contact a supervisor

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