Identifying refeeding syndrome and malnutrition in the elderly patient

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CASE: Syncope
- 79 y.o. female brought in by neighbor after being found on the kitchen floor with blank stare.
- Pt. was seen the night before doing around 8 pm doing fine; neighbor returned to find her on the floor at 9:45 AM.
- Pt. having difficulty describing the events that took place that morning.
- “I think I may have passed out going to the bathroom.”
- Pt. with History of stroke.
- Never has been hospitalized at BGSMC

HPI continued
- Lives with daughter, who recently left for a 6 week vacation.
- Neighbor instructed to check up on the patient once per day. No other instruction given.
- Both the neighbor and patient lacked insight in patients medical conditions or medications.
- ROS: Difficult to obtain, but patient stated unintentional weight loss, cough for several days and feeling weak. She also noted history of right sided weakness from a major stroke several years prior.
- “I am so thirsty/ hungry”
Physical exam

Vitals: 5 feet, 35 kg, Temp: 36.5, 59, 17, 99% RA, 189/113
GEN: oriented to self, confused, cachectic, mild distress
HEENT: PERRLA, EOMI, No JVD, no masses, Poor dentition, oropharynx dry
HEART: RR no m/r/g, occasional skipped beat
LUNGS: Coarse breath sounds b/l crackles on Left side
Abdomen: No TTP, baw, no masses
Back: stage 1 decubitus ulcer
EXT: mild pitting of the ankles otherwise no abnormalities
SKIN: poor skin turgor
Neuro: 3/5 right sided weakness U&L ext., 4/5 Left side
Could not follow instructions for coordination. Could not assess gait. No pronator drift, hyporeflexic

Labs

AG: 9, ASF<3, T. Bili: 0.3,
UA: 1-5 wbc, neg leukocyte esterase, negative nitrites, negative ketones, glucose 1,000
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UA: 1-5 wbc, neg leukocyte esterase, neg ketones, neg ketones, glucose 1,000
A1C: 14.1 = 360-400 average
Troponins: mildly elevated x 3
CXR: Left lower lobe infiltrate.
CT of head: no acute intracranial process

Hospital course 1st 24 hours

• Pt. was given 1 L NS in the ER, then continuously at 100ml/hour
• Pt. was pancultured and then started on Ceftriaxone and Azithromycin for concern of CAP.
• Blood pressure corrected conservatively so at least less than 180/100.
• Pt. placed on Insulin: First 24 hours the patient required 42 units of TDD insulin

• Pt. or neighbor did not know names of medications or pharmacy.
• Asked patients favorite store names.
• Several pharmacies called that evening.
• Pt. on Metformin, plaix, HCTZ, has not had them filled since February >6 months ago.
• Placed Cardiology and Speech consults
Next 24-48 hours

- Pt. became more lucid

- Neighbor warned the Medicine team that daughter is coming into town from her vacation and sounded upset.

- Daughter is MPOA (unkempt appearance, directs blame towards mother)

- "It's not my fault my mom doesn't take her meds."

- "I can't handle her anymore. She is too much work."

- "I don't want her back when she comes out of the hospital."

- Pt. acting more distant and guarded after daughter visits. Not answering questions without looking for approval.

- Daughter gives consent for cardiac evaluation (Lexiscan and Cath)

- Daughter no longer wants to make medical decisions as she wants to get back to her vacation and with the patient's agreement, signs over MPOA paperwork to neighbor friend.

- Cardiology evaluates the patient and she has a Cath. Gives recommendations for medical management only.

- Daughter leaves again for vacation.

- After daughter leaves, patient acutely improves ie, more lucid, joking with staff.

- Nursing staff notices patient has voracious appetite.

- Neighbor is actually close friend of over 20 years.
DAY 3-4
- Day 3 patient electrolytes very difficult to control.
- Pt. is now hypokalemic, hypoglycemic, and hypophosphatemic.
- Insulin requirements have decreased by 60 percent within 72 hours.

What is happening to patient?
- A. Renal failure
- B. Somogyi Effect
- C. HHNS Hyperosmolar Hyperglycemic Nonketotic state
- D. Refeeding syndrome

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Refeeding syndrome

- Potentially fatal
- Rapid changes in fluids and electrolytes particularly phosphate
- Occurs when patients who are malnourished are given oral, enteral or parenteral feedings too rapidly.
- Days up to 3 weeks for symptoms to occur.
- Malnourished patients can have depleted intracellular phosphate stores.
- Neurologic, pulmonary, cardiac, neuromuscular, and hematologic complications.

Mechanism of Action

- Sudden shift from fat to carbohydrate metabolism.
- Formation of phosphorylated carbohydrate compounds in the liver and skeletal muscle.
- Depletion of intracellular ATP and 2,3-diphosphoglycerate in RBC's.
- Cellular dysfunction and inadequate oxygen delivery to the body's organs.
- Increase in insulin levels after refeeding which leads to increased cellular uptake of phosphate.
Why do people with refeeding syndrome have cardiac abnormalities?

- Increased oral intake leads to an increase in circulatory volume
- Myocardial function is depressed secondary to decreased myocardial mass and secondary to hypophosphatemia
- This can lead to heart failure
- Pt. is more prone to arrhythmias secondary to electrolyte abnormalities

What are the feeding recommendations to prevent refeeding syndrome?

- A. 1000 kcal/day increase by 500 kcal/day
- B. 50 kcal/kg x 1 week then increase by 100 kcal/day
- C. 20 kcal/kg and increase by 100 kcal/day
- D. What the patient can tolerate, before nausea is noted
- E. kcal adjusted by their ideal body weight with nutrient supplement drink
**Why was the patient so malnourished?**

- Why was she so cachectic?
- Uncontrolled diabetes?
- Malnourished?
- Illness?

**Why was her Diabetes so uncontrolled?**
- Is she taking her medications?
- Who is giving her her medication?
- How educated is the family in regards to nutrition and Diabetes?

**Causes of weight loss in the elderly**

- Medications (eg, digoxin, theophylline, SRI's, antibiotics)
- Emotional (eg depression, anxiety)
- Alcoholism, elder abuse
- Swallowing problems
- Oral factors (tooth loss, xerostomia)
- Nosocomial infections (eg, tuberculosis, pneumonia)
- Wandering and other dementia-related factors
- Hypothyroidism, hypocalcemia, hypochromism
- Enteric problems (eg, esophageal stricture, gluten enteropathy)
- Eating problems
- Low salt, low cholesterol and other therapeutic diets
- Social isolation, stones (chronic cholecystitis)

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Why was the patient so malnourished?
- Friend stated when she went back to the house to pick up some items. There was no food in the house. Just sweets found above the refrigerator.
- **Why was her Diabetes so uncontrolled?**
  - Friend stated daughter flushed all her medications down the toilet. “She doesn’t take them anyway”
  - Friend was very concerned about the well being of the patient.
  - Did not want to let us know what was going on for concern of her own well being.

What falls in the criteria of elder abuse?
- Elder mistreatment is perpetrated by those with an ongoing relationship that involves an expectation of responsibility toward the victim. Abuse, neglect, and financial exploitation by strangers are not considered elder mistreatment unless someone who is expected to be responsible for the victim, such as a caretaker, breaches a duty to protect the elder.

**ABUSE**
- Willful infliction of physical pain or injury or unnecessary restraint (physical abuse).
- Willful nonconsensual sexual contact (sexual abuse)
- Willful infliction of emotional harm (psychological abuse).
Neglect

- Neglect - Failure of a person to provide for the needs and protection of a vulnerable elder. Duty to provide.
- Abandonment - Desertion of a vulnerable elderly person by a caregiver or caretaker.
- Self-neglect - Failure of a vulnerable elder to provide for his or her own care and protection. Self-neglect is said to be a failure of the elder to thrive in their environment.

Prospective cohort study
- 65 years and older
- 9 year study
- Patients referred to APS: Shorter survival after adjusting for other factors associated with increased mortality.
- 3.1 times more likely to die with abuse.
- 1.7 times more likely to die with neglect.

National Elder Abuse Incidence Study (NEAIS)
- Estimated 551,000 adults were subjected to abuse, neglect, and/or self-neglect in the domestic setting in 1996.
- Only 21 percent of cases were reported to and verified by APS.
- Self-neglect accounted for approximately 38 percent of the reported cases.

The mortality of elder mistreatment. JAMA 1998; 280:428
Lachs, Williams et al.

What are the risk factors and warning signs of neglect/Abuse?

Screening for elderly abuse

- 1992 AMA proposed that clinicians in all practice settings screen geriatric patients to identify abuse.
- Patients should be interviewed by themselves to avoid intimidation.
- Patients should be questioned about family composition and living arrangements.
- Patients should be asked directly about abuse, neglect or exploitation.


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What are screening questions for elderly abuse?

- Has anyone at home ever hurt you?
- Has anyone ever touched you without your consent?
- Has anyone taken anything that was yours without asking?
- Has anyone ever scolded or threatened you?
- Have you signed any documents that you didn't understand?
- Are you afraid of anyone at home?
- Are you alone a lot of the time?
- Has anyone ever failed to help you take care of yourself when you needed help?

Capacity

- Capacity for self-care and protection — Ability to make and carry out decisions regarding one's self care and protection.
  - **Decisional capacity**
    - Communicate a choice
    - Understand the relevant information
    - Appreciate the situation and its consequences
    - Reason about treatment options
  - **Executive capacity**
    - The ability to execute one's decisions

What are the rules in reporting elderly abuse?

- In all but Colorado, New Jersey, New York, North Dakota, South Dakota, and Wisconsin, reporting is mandatory.
- Penalties for failure to report suspected abuse exist in 38 states and the District of Columbia.
- Mandatory reporting requires a clinician to report suspected abuse even if a competent elderly patient specifically asks that the abuse not be reported.
- Except Puerto Rico and South Dakota physician is given immunity from any civil or criminal liability for reporting and testifying about suspected elder abuse, neglect, self-neglect or exploitation, so long as the communications are made in good faith.
Who to call?

- Adult protection services
- American Bar Association Commission on Law and Aging
- National Center on Elder Abuse
- Long-Term Care Ombudsman Resource Center
- Area agency on Aging

- Call local authorities if you suspect current abuse.

References

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Questions?

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