Expressive aphasia and discharge decision

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Learning objectives:

- Recognize the complexities of the hospital discharge process
- Identify various post-acute care options
- Advocate for patient-centered discharge planning
- Explain how hospital culture and policies could be perceived as source of entrapment or social control

Case synopsis:

Ms. S is a 47-year-old woman with a history of necrotizing pancreatitis, s/p partial pancreatectomy in 2013, insulin dependent diabetes with an A1c of 9.2% and hypothyroidism, who was admitted for altered mental status. Per review of emergency department and toxicology notes, she was last seen well at 11PM the night before admission. Her son found her around 5AM breathing loudly and acting strangely so he called EMS. They found her to have a blood sugar of 60, and she was given dextrose with improvement in blood sugar to around 100 but without significant change in her mental status. EMS reported many empty alcohol bottles at the patient's home. Her son confirmed that she had one drink of vodka last night but denied that she had heavy alcohol use. Her son reported that she did not have a history of alcohol withdrawal or alcohol withdrawal seizures. The admitting diagnosis was encephalopathy, possibly Wernicke, and alcohol withdrawal. Neurology and Infectious Disease services were consulted with extensive negative work up including brain MRI and EEG. She was initially intubated to protect her airways and after 6 days she was extubated. Examination revealed she could follow one-step commands consistently however was not able to speak. She gurgled or moaned words and sounds, could indicate yes and no, and repeat certain sounds 2-3 times in a row. She could spell the first few letters of a word and toward the end of the hospitalization, she could write one word or two but could not complete a full sentence. The rest of her neurological exam was unremarkable except a for a right foot drop from an old injury. The neurology consultants agreed that she showed evidence of expressive aphasia but provided no other explanation for her condition. She did not have any signs/symptoms of alcohol withdrawal. She walked with physical therapy using a walker.

On further discussion, it became apparent that she recently moved in with her son to save money on rent but that she intended to get a place of her own in the future. Her son worked for a sandwich shop 5 days a week and could not be home to provide 24/7 care as recommended by the PT/OT team. The patient adamantly refused skilled nursing home placement. Every time the team brought up the option of going to a nursing home, she became teary and agitated; one time she held on to her son and would not let him go until she could leave with him. Her son mentioned that she never did like hospitals and doctors and had general mistrust for healthcare providers. The hospital care team, including the social worker, care manager and nurses, were very uncomfortable with the idea of her going home without around the clock caregivers. At her insistence, and with son's acceptance of caring responsibility, she was discharged home with reassurance of a home visit by the discharging attending physician. There were several changes in her discharging medications. Her insulin regimen was switched to 4-6 units of insulin aspart at meal time from her prior home insulin dose of 70/30 NPH-regular insulin twice daily. She was also taken off blood pressure medications given her blood pressure was in the low-normal range.

The discharging attending physician conducted a home visit 2 days after discharge to assess her safety and to check on her medications. Her son's apartment was on the first floor but still required climbing

several steps from street level. The apartment was cluttered and there were many unpacked cardboard boxes. She had several hospital bags full of old medications and discharge papers. She slept on a stack of mattresses. She had two pill boxes marked AM and PM and she had essentially resumed the medications that she was on prior to this last hospitalization. Her blood pressure was 170/100 even back on anti-hypertensives and her blood sugar was 217 in the afternoon on 35 units of 70/30 that morning. She had not yet gotten a chance to pick up test strips to check her blood sugars at home. Interestingly, she was able to periodically sputter one short sentence (still not putting couple sentences together in a row, however). Her son mentioned that both his mother and he have a stuttering problem. Her son went shopping recently and there was food in the refrigerator ranging from milk, meat, eggs and vegetables. A couple cartons of beer were in the kitchen which her son noted to be his, not hers. She did not want to follow up with the new PCP with whom the discharging team scheduled an appointment prior to her discharge and she did not feel that home nursing visit was necessary. She wanted to return to her previous PCP whose practice location was one-hour drive away. She did have a driver license but her car was not drivable after an accident 1 year ago.

1. **What additional social history would you like to know?**

2. **Construct a clinical problem list for this patient**
3. **Conduct a root-cause analysis for at least one problem**
4. **Describe positive/protective social determinants of health for this patient**
5. **Describe negative SDH factors**
6. **Propose patient-level solution with attention to facilitators and barriers**
7. **Imagine possible health system or institutional solutions**
8. **Discuss potential community/societal-level solutions**

Facilitator's guide:

1. **Additional social history**:

- Employment: she used to work for a horse stable. She was able to receive SSI after the injury which left her with gait impairment. She worked as a waitress in one point. Her son had a low-paying job. We learned that he had almost completed culinary school training when the school went out of business and closed down, and he was left with a big loan but no degree.
- Education: she completed GED.
- Social support: both her parents passed away. She did not have any sibling and was estranged from her son's father.
- Healthcare: she did have Medicaid. She saw an endocrinologist once. It took her a while to find a PCP to her liking. She did not like to come to the hospital unless absolutely necessary. She did not want to pursue cancer screening such as mammogram, pap smear and colon cancer.

2. **Construct a clinical problem list for this patient**
    a. Expressive aphasia
    b. Poorly controlled diabetes with hypoglycemia
    c. Hypertension
    d. Poor health literacy
    e. Mistrust of the healthcare system
    e. Questionable history of hazardous alcohol consumption
    f. History of pancreatitis, s/p partial pancreatectomy

3. **Conduct a root-cause analysis for at least one problem**
    a. Expressive aphasia: even though we do not know the exact cause of this problem, we can postulate using pathophysiologic reasoning. Formulating a differential diagnosis is essentially a root-cause analysis. Potential causes of expressive aphasia include ischemia/stroke, encephalitis, metabolic encephalopathy, conversion disorder. There was no evidence of ischemia/stroke on imaging studies for Ms. S. There was also no evidence for an infectious cause. It would be quite unusual for Wernicke's encephalopathy to present with aphasia. She did not require benzodiazepine for withdrawal but did get high dose thiamine. The most plausible explanation is hypoglycemic encephalopathy. MRI typically reveals diffuse abnormal intensity in the cortex and basal ganglia region in hypoglycemic encephalopathy, something she did **not** have.
    b. Hypoglycemia: there are several potential causes of hypoglycemia in this case including skipping meals, not eating enough, taking too much insulin, alcohol use, excessive exercise or physical activity. There are studies which document end-of-the-month hypoglycemia with resulting emergency department visits and hospitalizations associated with food insecurity (Basu, 2017; Seligman, 2014). It would be helpful to screen her for food insecurity with the Hunger Vital Sign^{tm} questions: *"Within the past 12 months are you worried whether your food would run out before you got money to buy more?"* or *"within the past 12 months the food you bought just didn't last and you didn't have money to get more?"* A fridge full of food at one point in time did not necessarily rule out food insecurity. Patients with chronic pancreatitis and diabetes are known to have labile control, with episodes of hyper- and hypoglycemia. Her diabetes is probably related to pancreatic dysfunction

although she did not appear to have malabsorption/malnutrition suggestive of pancreatic exocrine insufficiency.

4. **Describe positive/protective social determinants of health for this patient**

   Ms. S had good knowledge of her conditions but because she had difficulty communicating with staff during this hospitalization, staff thought that she was confused and did not understand her situation and the danger associated with not being able to talk. She has a son who is invested in her care. She did have a driver's license but not a vehicle. She had plans to save money and to be financially independent. She does have Medicaid.

5. **Describe negative SDH factors**

   Ms. S's only family member is her son. He had a low-paying job without flexible work hours. She was able to collect Supplemental Security Income but it was not enough for her to pay all her bills. The amount of monthly SSI disability check depends on marriage status, additional income and where she lives. The monthly maximum Federal amounts for 2020 are $783 for an eligible individual. She also had fixed beliefs about her medical conditions and it was difficult to convince her to modify her treatment regimen due partially to lack of trust in her healthcare providers.

6. **Propose patient-level solution with attention to facilitators and barriers**

   Because of her expressive aphasia and even though we sought the assistance of a speech therapist and she was given a communication chart, healthcare team members still had difficulty understanding and communicating with her. They could not assess her health literacy level, particularly her ability to manage emergencies when she was alone and not able to communicate. At the time of discharge, staff could not anticipate the extent of her recovery (if any). Her care team also had difficulty getting in touch with her son initially and thought that her son was aloof and would not be of help to her. However, her doctors were persistent and was able to engage her son and her in the discharge planning. Her care manager disagreed with the decision to discharge her home but the attending physician believed that it would be emotionally distressing for her to go to a nursing home and she sought permission to visit them at home the day after discharge. This served to reassure the care manager that we would continue to follow her and assess for home safety.

7. **Imagine potential health system or institutional solutions**

   The discharge process in this case was certainly suboptimal. She was evaluated by Physical Medicine and Rehabilitation physician whose opinion was that she did not qualify for acute rehab/traumatic brain injury. The care team favored skilled nursing facility as the most appropriate and safest post-acute care (PAC) setting taking into account a wide range of factors including the patient's characteristics, functional status, medical history, caregiver support, recovery trajectory, and insurance coverage. The patient's preference was not considered citing her inability to make good decision due to illness. The care team faced constant pressures to optimize the length of stay and to discharge any patients that no longer required acute care services. Health systems (and health plans) should provide a range of PACs for patients. Ms. S's preference was home-based care which could include both formal and informal personal care services, skilled home health, physician house calls, and even "hospital-at-home" services. Most hospitalists do not make house calls. Home nurses tend to see a patient 2-3 times a week for several weeks, rarely could they come every day. Providing a home health aide to stay with her 5 days a week for the first few

weeks might be preferable. Currently, home health aides are available for Medicaid recipients with qualifying conditions such as physical disability or needing long-term care (waiver services). Other patients would have to pay out of pockets for home aide. Could we deliver comprehensive stroke rehab at home? This will require a paradigm shift for both healthcare providers as well as insurers. This patient did not trust hospitals and doctors so taking time to understand her past experiences would be helpful. Unfortunately, with our current hospitalist system, primary care providers are not involved in inpatient care contributing to disjointed care and miscommunication.

8. **Discuss potential community/societal-level solutions**

There are several possibilities for discussion—rehabilitation services for stroke patients; psychosocial support for diabetic patients; cost of prescription drugs; how healthcare providers/society perceive patients with alcohol use disorder, etc. Certainly, there was discriminatory and biasing language in the EMR and conceivably, many clinicians attributed her condition to alcoholism and appeared less enthusiastic about pursuing answers to her problems. However, for this case, facilitators should steer the discussion towards hospitals as a form of social control. It is helpful for clinicians to step back to understand the culture of hospitals and even though as a whole, hospitals are respected social institutions and practice, many patients do perceive hospitals as external forces trying to control their bodies. Foucault and others have also commented on the social control of bodies in Western culture through confinement and supervision in prisons, hospitals, psychiatric institutions and rehabilitation centers. Sometimes the organizational values of quality and safety result in onerous rules and regulations, barriers and obstacles that overwhelm a patient's sense of control over her destiny. Patients who want to leave against medical advice are often scrutinized for decision-making capacity. Capacity evaluation is often carried out only when patients disagree with our recommendations. Many patients lacking "decisional capacity" could "fly under the radar" as long as they follow our recommendations. Our society's acceptance and celebration of diversity should also embrace a hospital culture that is flexible and nimble to accommodate individual beliefs and preference. Facilitators could ask students these questions: should Ms. S have a formal capacity evaluation? Would it be feasible with her expressive aphasia? Should she be forced to go to a nursing home? What if she did not have a son who could help her and accept responsibility for care?

Case outcome:

Ms. S did not keep the appointment with her new PCP and insisted on seeing her previous PCP, a one-hour drive away. It was unclear how she would make it to that appointment. The visiting physician followed up with phone calls. Both the patient and her son declined additional home visits. The visiting physician sent a letter to her PCP to explain hospital course and concerns. Thus far, she has not been readmitted to this same health system. We can confidently say that Ms. S's admission was precipitated by hypoglycemia (cannot rule out concurrent alcohol use) causing ischemia to the Broca's area. There was a study in 2017 demonstrating that regional cerebral blood flow is reduced in the Broca's area in persons who stutter. We believe that due to her known stuttering, her Broca's area is particularly sensitive to the effects of hypoglycemia and/or ischemia and this resulted in her expressive aphasia.

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