General Surgery Resident Delirium Small group Session

Case : Mr. H.C.

Chief complaint: abdominal pain.

HPI: Mr H.C. is a 78 year-old male who presented to the ED w/ RUQ abdominal pain. He states it is worse after eating. The pain began as a dull ache in the epigastrium but then localized to the right upper quadrant and started about 2 days ago. He reports some nausea but no vomiting. He admits to a number of previous episodes in the recent past. He states he hasn't eaten much recently because of the pain.

PMH: His medical history includes severe osteoarthritis for 10 years, HTN, mild dementia (with MMSE 21/30), hearing impairment, depression, anxiety, CAD, hypothyroidism, BPH, CKD stage III (baseline cr is 1.8), DM, and dyslipidemia.

PSHX: none

Medications: tramadol, Atenolol 50 mg PO daily, Prozac, ASA, Aricept, levothyroxine, terazosin, metformin, glyburide, and simvastatin.

Social history: He has been married for 50 years, lives with his wife. He quit smoking 10 years ago. He drinks about 2 beers/day. He wears glasses and hearing aids. He is independent in ADLs but dependent in IDLs. He uses a cane to get around the house because of his severe OA.

Review of Systems: Fatigue, diffuse weakness, and chronic knee and back pain.

Physical exam:
Vital: T 98.0F, BP 95/60 HR 103, RR 18 O2 97%
General: no acute distress
HEENT: mucous membranes dry.
Abd: patient has right upper quadrant abdominal tenderness and guarding. Murphy's Sign (a pause with inspiration on palpation of the right upper quadrant) is positive
Neuro: Motor 4/5 in all extremities. Sensory: normal and symmetric reflexes. The patient can recall his name and location but did not know the date, or the year.

Based on the patient's symptoms you order labs including a CBC, CMP, amylase, lipase, urinalysis, as well as an ultrasound of the patient's gallbladder

Labs:

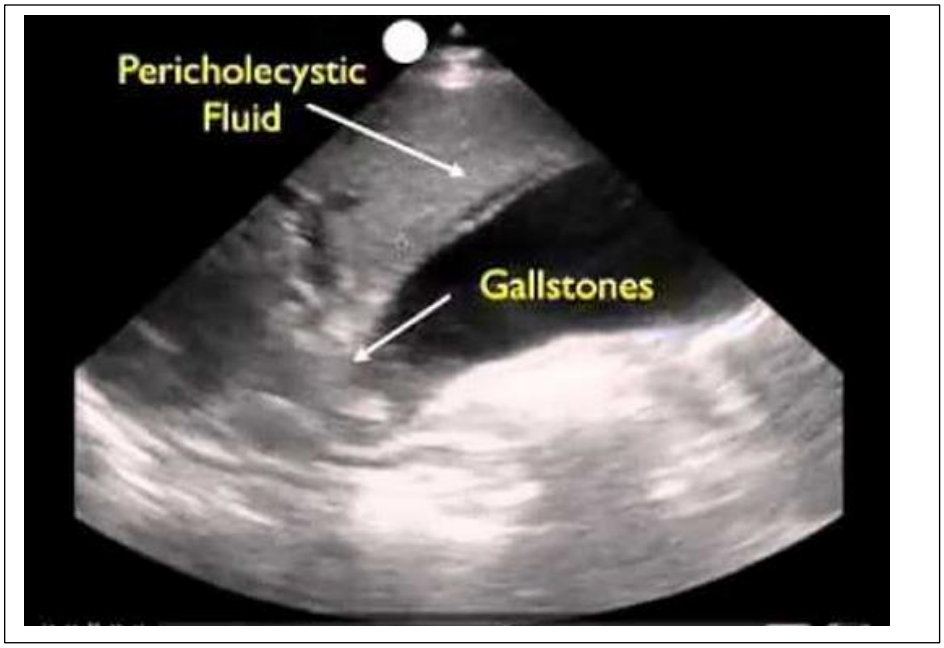
Labs: 149 |110 |98 /310 \ 10.2/
3.2 |28 |2.1 \ 13.0 / 30 \ 201
TB 2.1, Direct Bilirubin 3.0 alkaline phosphatase 140 U/L, AST 45 U/L and ALT 30 U/L. Amylase and lipase WNL.

Question 1: What is this patient's Delirium risk assessment score: low, medium or high?

Delirium Risk Assessment: Delirium Risk Screen

Delirium Risk Assessment: Delirium Risk Screen (Marcantonio et al.)	
Age ≥ 70	If Yes: 1 point
Alcohol abuse	If Yes: 1 point
Cognitive impairment: MMSE < 25/30 or Telephone Interview for Cognitive Status (TICS) score <30	If Yes: 1 point
Electrolytes: Abnormal sodium, potassium or glucose * sodium, <130 or >150 mmol/L; potassium, <3.0 or >6.0 mmol/L; and glucose, <60 or >300 mg/dL.	If Yes: 1 point
Poor functional status=Specific Activity scale of Class IV. (means <2 mets (light intensity activity e.g Can't dress without stopping because of symptoms.) *1 MET* = the energy (oxygen) used by the body as you sit quietly, perhaps while talking on the phone or reading a book.	If Yes: 1 point
Type of surgery: is it either non-cardiac thoracic surgery or AAA repair?	If Yes: 1 point
Score: 0 = low risk 1-2 = medium risk	
Delirium Risk: □ Low (2%) □ Medium (11%) □ High (50%)	

Ultrasound showed:



<u>Question 2: What are some risk factors for delirium in this patient?</u>

Continue with the case:

So he was admitted to the general surgery floor. He had some urinary incontinence, so a Foley catheter was placed into his bladder in the ED. He was started on IVFs since he appeared dehydrated along with morphine 2-4mg IV prn for pain. Pt was made NPO, started on insulin sliding scale, and scheduled for lap chole in the AM. Pt complained of some itching so Benadryl 50mg IV Q8 Prn was ordered. He also complained of uncontrolled pain in his abdominal and says it's about 7/10.

<u>Question 3:</u> You are the upper level resident. Realizing the patient's delirium risk score is high, what adjustments would make to the intern's admission orders to reduce the patient's risk of developing delirium?(i.e what preventive measures would you implement?

Continue with the case:

Intraoperatively he was intubated and placed under general anesthesia. Laparoscopic surgery was attempted but unsuccessful so it had to be converted to open chole. He had some hypotension during the procedure along with >1000ml of blood loss and was transfused 1 unit of PRBC. Postoperatively he was extubated and transferred to the floor.

Question 4: What are some factors intra-operatively that can cause postoperative delirium?

Continue with the case:

After extubation, you noticed he was lethargic and would drift in and out of sleep while talking to you. You also noticed that at times when you would ask him questions, he wouldn't answer and was distracted by the TV(would start watching something on the TV) or would just answer as Yes or No.

The nurse tells you that they have had no problems with the patient overnight and he slept throughout the night fine but that she did a 4AT and reports: the patient revealed that he had noticed a "problem" with his thinking and frequently found himself to be unsure of where he was and why people were coming in and out of his room. He was only oriented to self and place (didn't know the year). He knew his age and birth date. When she asked him "Please tell me the months of the year in backwards order, starting at December." He was only able to get 5 correctly. The next day you saw the patient and he complained of increasing pain during PT and stated his anxiety had been getting worse and asked for something to help with his anxiety so IV Ativan 1mg Q6h was ordered along with IV dilaudid 2mg Q6hr Prn pain. Pt still has a foley in place and nurse states patient hasn't had a bowel movement since admission.

Question 5: Using the 4AT that we taught you, does this patient have delirium or just lethargy from surgery?

CIRCLE

[1] ALERTNESS

This includes patients who may be markedly drowsy (eg. difficult to rouse and/or obviously sleepy during assessment) or agitated/hyperactive. Observe the patient. If asleep, attempt to wake with speech or gentle touch on shoulder. Ask the patient to state their name and address to assist rating.

Normal (fully alert, but not agitated, throughout assessment)	**0**
Mild sleepiness for <10 seconds after waking, then normal	**0**
Clearly abnormal	4

[2] AMT4

Age, date of birth, place (name of the hospital or building), current year.

No mistakes	**0**
1 mistake	1
2 or more mistakes/untestable	**2**

[3] ATTENTION

Ask the patient: "Please tell me the months of the year in backwards order, starting at December." To assist initial understanding one prompt of "what is the month before December?" is permitted.

Months of the year backwards	Achieves 7 months or more correctly	**0**
	Starts but scores <7 months / refuses to start	1
	Untestable (cannot start because unwell, drowsy, inattentive)	**2**

[4] ACUTE CHANGE OR FLUCTUATING COURSE

Evidence of significant change or fluctuation in: alertness, cognition, other mental function (eg. paranoia, hallucinations) arising over the last 2 weeks and still evident in last 24hrs

No	**0**
Yes	4

4AT SCORE_____

4 or above: possible delirium +/- cognitive impairment
1-3: possible cognitive impairment
0: delirium or severe cognitive impairment unlikely (but delirium still possible if [4] information incomplete)

Question 6: What are some treatment options non-pharmacological that you can implement to help treat this patient's delirium?

Question 7: What are some pharmacological treatments that you could use if patient continues to have hyperactive delirium and risk at hutting self or others? List drug name, appropriate starting dose for an elderly patient and adverse reactions to monitor for.

Question 8: What are some ramifications that can occur since this patient developed postoperative delirium?

Question 9: If time, can someone tell an example of a case that they had recently of one of their patients developing postoperative delirium and what happened? what could you try differently based on what you learned today?