Treatment-resistant delirium

Female, born -37. Lived in a nursing home for people with dementia. No other chronic diseases. Was well-functioning, independent in ADL, and had insight into her dementia.

She fell in July and got a hip fracture. Preop UCG (Ecco cardiography) unremarkable. In the records confusion pre-and postoperative - climbed out of the bed, pulled out PVC and urine catheter. Treated for suspected pneumonia. Midazolam, oxazepam, and clomethiazole with various effects. Effect of letting her children visit her, despite strict visiting policy due to the pandemic. No infection was found. Discharged on August 4th, “probably better for her to come to her nursing home”.

August 13th readmitted with suspicion of wound infection. Very complicated treatment of the infection partly because the patient could not cooperate with the optimal treatment. Peripheral edema - new UCG showed a silent heart infarction with EF 20%. Her delirium aggravated over the weeks, and high doses of haloperidol and diazepam were administered. Citalopram and donepezil were paused because of interactions. A psychiatrist was consulted on September 11th, adjusted the medication, but it did not work since the patient took nothing per mouth. Several injections of haloperidol and midazolam followed. Discharged on September 17th.

Several contacts with the GP the following days, hyperactive delirium, was given more midazolam and haloperidol. October 5th admitted to the clinic of psychiatry, impossible for the staff to handle her. She was given haloperidol, clomethiazole, lorazepam, diazepam, midazolam and paracetamol. Transferred to the department of medicine in her hometown on October 7th. The medications for her delirium were now lorazepam, haloperidol, and midazolam.

Information on the non-reversible situation by a geriatrician. After discharge, the GP tried zuclopenthixol (Cisordinol) and memantine (Ebixa). The patient died November 22nd, never relieved from the delirium that began July 26th.

1. What are the strategies in your hospital/hospice/practice:
    a. to prevent delirium in your palliative patients? Orientation to day / night, sleep hygiene, orientation to place (reminding where they are), upholding daily routines, discussing with patients to maintain orientation, ensuring sufficient exercise, taking care of constipation and urinary retention, attempting to avoid medications that may induce delirium (for example, local pain alleviation over systemic, if possible).
    b. to detect a delirium? Screening and awareness, for example, as flawed as CAM is, even having a systematic way of reminding nurses and doctors to pay attention to patient’s cognition helps. Similarly, systematic ways of preventing delirium help in noticing it.
2. Take turns and name triggering causes of delirium. Let’s see how many you can name Yeah we did this.
3. What is the treatment strategy for active delirium in your workplace?
    a. First drug of choice, dose? Haloperidol 1-2 mg x 1-2 or 1-4 mg / 24 h initial, but slow dose escalation depending on response.
    b. If that fails? Second choice Levomepromazine, midazolam,quetiapine, benzodiazepine if necessary
    c. If that fails?
    d. …

4. Is your treatment strategy different if the patient:
    a. is very old? Smaller starting doses.
    b. has Parkinson? Careful with haloperidol and levomepromazine / olanzapine, consult a specialist about Parkinson medication.
    c. has dementia? Depends on the cause and severity of the dementia. Consult.
    d. Is imminently dying? Palliative sedation or sedation, 'aggressive' symptom control.
    e. has a silent delirium? Case-by-case basis, if severe or clearly causes symptoms or the patient has symptoms like anxiety or pain, you need to treat those. Of course, one can argue if treating anxiety in a silent delirium could be treating the cause rather than the delirium itself or its symptoms.
5. Does a patient with delirium have capacity to consent to treatment? Varies per patient, but they very well might.
6. What is the routine at your hospice/hospital/practice when a patient with active delirium resists treatment? What are the laws and regulations?Finland has very different regulations for palliative sedation and sedation than other Scandinavian countries. Using restrictions such as tying the patient down are heavily regulated and used as a last resort to prevent injury.

Delirium from opioids?

(Case from Maria Hammarlund)
The 81-year-old woman was admitted to the hospital for further investigation of skeletal metastasis after MRI showed several metastases to the spinal column. Smoked since she was 15 years old. Further investigation concluded with lung cancer with metastasis to lymph nodes and skeleton, T2aN3M1c.
Because of pain from skeletal metastasis, especially a destructed Th12, she started with oxycodone, which during 3 days were increased to 20mg x2. She had never used strong painkillers before. She became confused and delirious; thought she was staying at a hotel and was constantly walking around trying to find her room. At a point, she also had respiratory depression because of oxycodone. She had to have one nurse following her all the time.

The dose of oxycodone was reduced to 10mg x2, in addition to that she had an epidural catheter. She did not receive any medication against the delirious condition. And after 1-2 days she was more or less back to normal. She remembered that she earlier was not herself and that it was an unpleasant experience.

1. Name drugs typically used in palliative practice that can trigger a delirium Opioids, cortisones, benzodiazepines, anticholinergic medication ++++++++++ See: UpToDate.
2. What is your strategy when giving opioids or other pain medications to a patient you consider prone to delirium? Drugs of first choice? Drugs to avoid? Be aware of

kidney and liver function and electrolytes, as well as constipation and urine retention as well as Parkinsonism and CNS-effects, discuss with patient and relatives, start on low doses when possible, avoid rapid changes, avoid polypharmacy.

3. Are you aware of any interactions between drugs commonly used in palliative medicine that could be relevant when describing opioids and benzodiazepines? We debated how the question should be interpreted, but there are several drugs that can increase opioid or benzodiazepine concentrations in blood, or increase CNS burden, or increase constipation or urinary retention or anticholinergic symptoms. All of our hospitals have some kind of system that automatically compares interactions in polypharmacy.

Delirium in a patient with hip fracture and bone metastasis

(Case from Pekka Haapaniemi)

Elderly 70+ male admitted to an acute geriatric ward after falling at home, which resulted in a bilateral femur fracture. Prior to fracture, lead an active life and was described as youthful and physically active for his age. The fractures were operated on. The bone had marked sclerosis and PAD returned the diagnosis of metastatic prostate cancer. CT scan showed metastatic prostate cancer (bone, lymph nodes) and multiple bilateral hip fractures. Blood tests showed an elevated PSA, all other lab values (such as blood count, CRP, sodium, potassium, Ca-ion, LD, urate, and GFR) were normal.

Bone tumor meeting recommended radiotherapy to both hips post. op. and urological consultation recommended starting the patient on hormonal castration therapy and plausibly denosumab and calcium supplement.

Due to excruciating pain that prevented even moving the patient in bed, he was started on fentanyl patch 12 ug/h that was raised to 25 ug/h after three days, then 37 ug/h after another three days. The patient had oxycodone as rapid-acting analgetic during the titration, with doses up to 80 mg per day.

When fentanyl was raised to 37 ug/h the patient became delirious. He failed to orient or follow commands and was restless, trying to remove the catheter or the i.v. drip with oxycodone. The fentanyl dose was lowered to 25 ug/h, but this had no effect. Opioids were rotated to a s.c. drip of oxycodone that seemed to give pain control. Lorazepam and haloperidol were added. All lab counts and infection parameters returned normal repeatedly.

Radiotherapy was canceled. Hormonal therapy was started, but denosumab was not, due to patient compliance issues. Rotation of haloperidol, quetiapine and risperidone had no effect. Delirium was declared terminal when the patient became unable to eat or drink. The patient was moved to a terminal care ward and died within a month.

1. With your 20/20 hindsight vision analyze the treatment provided for this patient. Would you change anything in regard of:
    a. -Investigating reasons for the patient's delirium Patient pain? Anxiety? Opioid dose? Use of multiple opioids?
    b. -Treating the patient's pain (choice of opioid? Other ways to provide pain relief?) Epidural? Why were both fentanyl and oxycodone used simultaneously? Why use fentanyl patches in a situation of escalating pain? Opioid could have been rotated to methadone.
2. What do you guess is this patient's life expectancy if he did not have delirium? Possibly up to several years.
3. Would you consider palliative sedation for this patient? A good question! Could we have had an epidural placed in, or radiotherapy, perhaps even in sedation? Would the symptom control otherwise require a palliative sedation?