

Behaviour management in dementia

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Case description: part 1

Mr J.C. is an 84-year-old widower who has been a nursing home resident for the past 2 years. He was admitted with mild dementia, which has progressively worsened. His nurse calls because he has been becoming more agitated and is physically aggressive at times. His sleep has deteriorated; occasionally he disturbs other residents at night with shouting and calling out. He is not oriented to time or place, and rarely remembers visits from family or friends. Mr J.C.'s mobility has declined; he spends most waking hours sitting. He has been moved within the nursing home several times owing to complaints from other residents and families.

Mr J.C.'s history includes hypertension, type 2 diabetes mellitus, and osteoarthritis (OA). He has known benign prostatic hyperplasia, with urinary urgency and dribbling at times. He was briefly treated with anticholinergic medication for urgency, but his behaviour worsened. He has a remote history of heavy alcohol use and a 40-pack-year smoking history, although he has not indulged either habit for the past 3 years. His medications include 10 mg of ramipril daily, 500 mg of metformin twice daily, and intermittent ibuprofen or acetaminophen for arthritis. He no longer complains that his joints are painful. He occasionally becomes constipated and requires laxatives.

On examination, Mr J.C. seems a bit agitated and resistant. He does not appear to recognize his regular family doctor. His pulse is 82 beats/min and regular. Blood pressure is 142/78 mm Hg. Temperature is 37.2°C. Physical findings include generalized joint changes typical of OA, early contractures of his knees and hips, mild lower abdominal tenderness, and constipated stool on rectal examination. Complete blood count and electrolyte levels are essentially normal. Results of a spot blood sugar measurement reveal a level of 7.9 mmol/L, and a urine dipstick reveals moderate leukocytes.

The nurse on duty is asking for something to help sedate Mr J.C. so that his behaviour is less disruptive.

Bringing evidence to practice

- Look for triggering factors when evaluating new behavioural issues—for example, infection, medications, constipation, or depression^{1,2} (**Box 1**^{2,3}).
- Consider whether pain could be causing or exacerbating the behaviour, and, if so, treat the cause (eg, urinary retention, constipation) or manage the pain with analgesics as appropriate (eg, a trial of regular acetaminophen for osteoarthritis).^{4,5}

Box 1. Select triggering factors in behavioural and psychological symptoms of dementia

Psychosocial

- Distress
- Fear of danger
- Misinterpretation
- Feeling abandoned
- Loss of autonomy
- Paranoia

Environmental

- "Bad" company
- Boredom
- Confusing surroundings
- Excessive demands
- Lack of routine
- Inadequate lighting
- Loneliness
- Noise

Medical

- B12 or folic acid deficiency
- Hunger or thirst
- Hypercalcemia
- Hypothyroidism
- Infection (eg, urinary tract infection, pneumonia)
- Metabolic
- Nocturia
- Pain
- Constipation

Medications (ie, rule out drug-induced delirium)

- Anticholinergic drugs
- Benzodiazepines
- Cholinesterase inhibitors
- Digoxin
- Opioids
- Substance abuse
- ... and many others

Data from Feldmen et al² and Regier and Bareham.³

- Use nondrug treatments first where applicable^{6,7} (**Box 2**³).
- Pharmacotherapy can be added when a treatable cause cannot be identified and nonpharmacologic measures have been tried and are inadequate owing to risk of harm to self or others.⁶ The clinical value of drugs in behaviour management is limited owing to a modest benefit that is offset by serious adverse events.

Case description: part 2

Mr J.C. is found to have a urinary tract infection, which is successfully treated. He is also placed on a regular bowel care regimen, and acetaminophen is given on a schedule (650 mg, 4 times daily) for his

Box 2. Select nondrug treatment tips

Allow behaviour that is not problematic.

Institute a patient-centred or relaxed schedule that allows flexibility for the preferential routines of each patient (eg, medication times, meals, bathing, sleep times, activities):

- assess daytime naps and limit or avoid in most patients (might be alright to allow aggressive patients to sleep while others are awake);
- make time for regular exercise to decrease restlessness and refer to daytime programs if available; and
- encourage daytime activities to minimize boredom and loneliness.

Create a positive environment that avoids triggering factors:

- make use of aromatherapy;
- play music suitable to the individual;
- reduce noise or the number of people in the room;
- remove keys from view if the patient is no longer driving;
- distract the patient with snacks or activities;
- ensure the house or room is safe if the patient is wandering (eg, put buzzers on doors, provide adequate light, take measures to reduce fall risk);
- provide a clock and calendar if the patient is confused about time and dates; and
- consider room placement changes if the patient is attempting inappropriate sexual behaviour, in order to minimize interactions of concern.

Minimize unnecessary and problem drugs.

- Difficulty swallowing can cause severe agitation; if medication is necessary, look for alternate formulations (eg, dissolvable tablets).
- As disease advances toward the end of life, transition to comfort care rather than curative or preventive care.
 - Review medications and consider stopping statins, vitamins, herbal remedies, and bisphosphonates.
 - Review blood pressure and blood sugar goals: levels that are too low can lead to falls.

Only do laboratory work when necessary.

Provide access to false teeth, hearing aids, and glasses to reduce agitation in some patients, although this can have the opposite effect if the patient is sound-sensitive or if these aids are considered bothersome by the patient (especially hearing aids).

Adapted from Regier and Bareham.³

OA. His behaviour, although not completely settled, improves. A few weeks later, however, his agitation worsens again; this is treated with intermittent doses of lorazepam. Over time, nursing staff become more concerned about lewd remarks and some groping of staff. After 6 months of deteriorating behaviour, 0.5 mg of risperidone twice daily is added to his medical therapy and the lorazepam is discontinued.

Bringing the evidence to practice

- Consider whether the symptoms need pharmacologic treatment. Some symptoms might be tolerated if they are not harmful to the patient or to others.

- There is some evidence that a stepwise protocol of analgesics considerably improves overall neuropsychiatric symptoms and pain in nursing home residents with moderate to severe dementia and agitation.⁴
- Benzodiazepines can cause confusion, disinhibition, and a worsening of symptoms.⁸ They might also increase the risk of falls and fractures.⁹⁻¹¹ They should generally be reserved for short-term treatment of acute or procedural anxiety.
- There is some evidence that antipsychotic medications might be of benefit in controlling certain behavioural symptoms, specifically severe agitation, aggression, and psychosis. The effect of antipsychotic medication is modest and the clinical value is limited owing to serious adverse events, including a possible increase in mortality¹²⁻¹⁴ (**Table 1**^{8,15-17}). Beneficial effects might be greater for those with more severe behavioural issues. Reassess beneficial and adverse effects of antipsychotic medications within 3 to 7 days of starting them. Patients with Lewy body disease (eg, visual hallucinations) typically have increased sensitivity and intolerance to antipsychotic drugs.
- Attempts at withdrawing antipsychotic drugs should be made regularly (eg, taper and stop if possible after 3 months).⁸ Follow-up to the DART-AD (Dementia Antipsychotic Withdrawal) trial found that mortality risk was reduced from 71% to 46% over 2 years in patients whose antipsychotic medications were stopped (number need to treat was 4).¹⁷
- Other drugs, such as anticonvulsants, are sometimes tried, although data for efficacy are lacking and adverse events are common.¹⁸ More information is available from **CFPlus**.*

Case description: part 3

Mr J.C. does not tolerate risperidone owing to excessive drowsiness, which substantially interferes with his ability to eat. A short trial of quetiapine (25 to 50 mg at bedtime) is better tolerated but largely ineffective for behaviour modification. Thus, a decision is made to discontinue the antipsychotic and focus on better pain management with nondrug interventions in addition to his regular acetaminophen. Additional pain relief options, such as a topical nonsteroidal anti-inflammatory drug or a low-dose regular opioid, could be added if necessary.¹⁹ Efforts to control the pain help to reduce Mr J.C.'s agitation. A meeting is held with the family to discuss the natural progression of dementia and the

*The full version of the RxFiles Management of Behavioural and Psychological Symptoms of Dementia chart is available at www.cfp.ca. Go to the full text of the article online, then click on CFPlus in the menu at the top right-hand side of the page.

Table 1. Antipsychotic medications for BPSD in the elderly

DRUG, NAME, AND DOSAGE FORMS	USUAL (INITIAL) DOSE RANGE IN THE ELDERLY	COST, \$	COMMENTS
Atypical			
Risperidone* • Risperdal, generic -tablet, ODT, solution -IM depot injectable†	0.5-2 mg orally at bedtime (0.25 mg orally at bedtime)	23-47	• Approach to use: Start with a low dose; titrate carefully. Assess for benefit and tolerability in 3-7 d; titrate as necessary. Reassess for possible taper or discontinuation every 3 mo. ⁸ • Efficacy: Antipsychotic drugs are somewhat effective for agitation, aggression, and psychosis (hallucinations and delusions). There is the most evidence with risperidone. • SAEs: SAEs limit the clinical value of antipsychotic drugs.
Quetiapine • Seroquel, generic -tablet, XR tablet	25-200 mg orally at bedtime (12.5 mg orally at bedtime)	19-43	They include EPS, stroke, seizures, sedation, increased fall risk, cognitive decline, diabetes, and possibly increased mortality. Increased QT interval is also possible, especially with quetiapine and IV haloperidol; consider ECG.
Olanzapine • Zyprexa, generic -tablet, ODT -IM injectable	2.5-7.5 mg orally at bedtime (1.25 mg orally at bedtime)	37-96	• Mortality risk: Risk appears to increase for both atypical and typical agents. Stopping long-term antipsychotic medications, when possible, reduces mortality risk. ¹⁷ • Sedation: Sedation is more likely with olanzapine or quetiapine; it is less likely with haloperidol or risperidone. • Parkinsonism and EPS: These are most likely with haloperidol, olanzapine, or risperidone. • Hypotension: Hypotension can be minimized with cautious dosing. • Weight gain and diabetes: These are most likely with olanzapine. • Swallowing difficulty: Several antipsychotic drugs are available in solution or dissolvable tablet forms that might be easier to swallow.
Typical			
Haloperidol • Haldol, generic -tablet, solution -IM depot injectable† -subcutaneous injectable	0.25-1 mg orally twice daily (0.25 mg at bedtime) 0.25-0.5 mg subcutaneously or IM once for acute delirium	10-12	

BPSD—behavioural and psychological symptoms of dementia, ECG—electrocardiogram, EPS—extrapyramidal symptoms, IM—intramuscular, IV—intravenous, ODT—oral disintegrating tablet, SAE—serious adverse event, XR—extended release.

*This is the only drug with an official indication for BPSD.

†Depot formulations are included for completeness; however, they have little or no role in BPSD.

Data from Jensen.^{15,16}

benefits and risks of therapeutic options. The family and nursing staff agree that tolerating behaviour that is not dangerous to the patient, other residents, or staff is preferable to causing adverse events related to medications.

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