Pharmacologic management of inappropriate sexual behaviour in long-term care residents

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Clinical question

Which medications are most effective for managing inappropriate sexual behaviour (ISB) in people with dementia who reside in long-term care (LTC) facilities?

Bottom line

Inappropriate sexual behaviour due to dementia presents a complex challenge for residents, their families, and staff in LTC facilities. Prevalence of ISB among patients with dementia varies (1.8% to 25.0%), but it is more common among male residents and those with severe dementia.[1-3] Behavioural interventions are recommended as first-line therapy, but people living in LTC who exhibit ISB often need pharmacologic therapy owing to risks posed to other residents. Unfortunately, the pharmacologic management of ISB has not been well studied. This paper summarizes key points from an article published in the *Canadian Geriatrics Society Journal of CME* that provides a comprehensive approach to this distressing issue.[4]

Evidence

- Medications are used off-label to treat ISB.[2,3]
- Medications used include antidepressants, antipsychotics, anticonvulsants, mood stabilizers, and hormonal agents.[2,3]

Approach

Inappropriate sexual behaviour may result in high-risk situations in LTC. Many residents in LTC are unable to call for help, consent to physical advances of other residents, or protect themselves from unwanted physical advances.[5]

Causes of ISB are not well understood. The frontal lobes, limbic system, hypothalamus, and striatum play roles in sexual drive and behaviour regulation and are often affected by neurocognitive disorders.[6,7] Long-term care residents' previous personality characteristics and baseline needs for intimacy can combine with confusion, disinhibition, and worsening judgment accompanying dementia to result in ISB.[8]

Treatment for ISB should start with nonpharmacologic behavioural intervention. However, given the vulnerability of many residents and difficulties associated with supervising residents in shared spaces, many people in LTC are treated pharmacologically. Unfortunately, the evidence for medications is based mostly on case reports and case series, with some small randomized controlled trials. A summary of medication studies is provided in **Table 1**.[2,5,6,8-41]

Possible mechanisms

Antidepressants. Antidepressants have been used to treat patients with ISB owing to their effects on libido and treatment of paraphilias.[7] Furthermore, they can be leveraged for dual indications such as irritability, depression, or apathy, which are common symptoms of dementia.[11]

Antipsychotics. Antipsychotics have been postulated to be effective in reducing ISB due to dopamine-blocking activity.[42]

Anticonvulsants. Gabapentin and carbamazepine have been used to treat patients with ISB, but the mechanisms are poorly understood. Gabapentin may result in decreased libido, erectile dysfunction, and difficulty with orgasm.[3] Carbamazepine has been associated with reduced testosterone levels in women.[3]

Mood stabilizers. In 1 case study, lithium was prescribed in combination with olanzapine to a 69-year-old patient with a history of bipolar disorder with mania, which resulted in partial improvement.[5] No comments were made on proposed mechanisms of action or whether mania was believed to be a contributor.

Hormonal therapy. Most case studies review hormonal therapy. Pharmacologic management with medroxyprogesterone acetate, cyproterone acetate, leuprolide, or estrogen is theoretically effective for ISB as these reduce levels of luteinizing hormone and follicle-stimulating hormone at the level of the pituitary gland, ultimately decreasing serum testosterone levels.[3,42]

Antihistamines and other classes. One small case series used cimetidine in combination with other agents, including spironolactone and ketoconozole.[39] These medications have been shown to have nonhormonal antiandrogen activity, which may decrease libido.

Cholinesterase inhibitors. Cholinesterase inhibitors are often used to manage behavioural and psychological symptoms of dementia, but they have not been shown to be effective in managing ISB and may accentuate ISB, as they can be stimulating.[42]

Implementation

One should first consider acute and reversible causes of a new presentation of ISB, including delirium, medication effects (particularly with dopaminergic agents), mania, psychosis, substance use, and postictal confusion.[8,43]

Table 1. Evidence for pharmacologic management of inappropriate sexual behaviour in patients with dementia residing in long-term care

MEDICATION CLASS	MEDICATION	DOSE	NO. OF APPLICABLE PATIENTS IN CITED STUDIES	CAUTIONS
Antidepressants	Citalopram	10-40 mg once daily[5,6]	8	QT prolongation[9]
	Clomipramine	150-200 mg once daily[10]	2	Anticholinergic, risk of delirium,[11] increased risk of falls
	Mirtazapine	15-30 mg once daily[5]	1	Increased appetite, sedating,[12] increased risk of falls
	Paroxetine	20-40 mg once daily[13,14]	2	Anticholinergic, risk of delirium,[11] increased risk of falls
	Trazodone	100 mg once daily[8]	1	Sedating,[15] increased risk of falls
Antipsychotics	Aripiprazole	2.5-18.0 mg once daily[16,17]	2	Increased mortality, extrapyramidal side effects, orthostatic hypotension, increased risk of falls[11]
	Olanzapine	2.5-15.0 mg once daily[5]	6	
	Quetiapine	12.5-150.0 mg per day (dosing interval not reported)[5]	1	
	Risperidone	0.5-2.0 mg per day (dosing interval not reported)[5,8]	4	
	Risperidone or haloperidol	0.5-1.5 mg per day (dosing interval not reported)[18]	114*	
Anticonvulsants	Gabapentin	100 mg twice daily, 200 mg twice daily, or 300 mg 3 times daily[19,20]	3	Dizziness, drowsiness, ataxia, confusion, and increased risk of falls[21,22]
	Carbamazepine	800 mg per day (dosing interval not reported)[23]	1	
Mood stabilizers	Lithium	300-600 mg once daily[5]	1	Lithium toxicity,[24] increased risk of falls
Hormonal agents	Medroxyprogesterone acetate (oral)	5 mg once daily[8]	1	Avoid in patients with active or previous thromboembolic disease; may exacerbate hormone-dependent cancers, liver disease, adrenal suppression, depression, edema, diabetes, and weight loss or gain[25]
	Medroxyprogesterone acetate (IM)	100 mg once monthly to 500 mg once weekly[5,26-29]	13	
	Cyproterone acetate	10 mg orally once daily[30]	2	Avoid in patients with previous or active thromboembolic disease; hepatotoxic[31]
	Conjugated estrogen	0.625-2.50 mg once daily[32,33]	15	Increased risk of VTE, dyslipidemia, breast cancer, and endometrial hyperplasia[34]
	Diethylstilbestrol	1 mg once to twice daily[35]	1	Not available in Canada[36]
	Finasteride	5 mg once daily[37]	11	May increase incidence of high-grade prostate cancers[38]
Antihistamines	Cimetidine	400-1600 mg per day (dosing interval not reported)[2,39]	18	Anticholinergic, risk of delirium,[39] increased risk of falls
Antifungals	Ketoconazole	100-200 mg once daily[39]	6†	Adrenal suppression, increased risk of myopathy when used with statins, increased risk of hepatotoxicity, QT prolongation[40]
Diuretics	Spironolactone	75 mg once daily[39]	6†	Hyperkalemia, acute kidney injury,[41] increased risk of falls

IM—intramuscularly, VTE—venous thromboembolism.
*Study did not report how many of these patients had inappropriate sexual behaviour.
†This represents 6 people in total who received dual therapy with ketoconazole and spironolactone.

If the ISB is considered high risk and the patient is not responding to behavioural or environmental interventions, then a pharmacologic approach could be tried.

Given the weak evidence and possible side effects of treatments, it would be reasonable to choose an antidepressant as a first-line approach. Sertraline, citalopram, or escitalopram are options given their reasonable safety profiles in older adults. Another possible first- or second-line agent for men who have benign prostatic hyperplasia would be a 5-α-reductase inhibitor such as finasteride or dutasteride. Gabapentin could be considered as a second- or third-line agent, particularly at low doses of 100 mg taken 2 or 3 times daily.

If a more urgent response is required, antipsychotic medications may have a role. Risperidone, olanzapine, or aripiprazole would be reasonable options. If this is the case, consider initiating combination therapy with a safer first-line therapy, with the antipsychotic as a temporary bridge. If the ISB stabilizes, attempt to deprescribe the antipsychotic within a few months.

Finally, consider a hormonal agent such as medroxyprogesterone acetate, cyproterone acetate, leuprolide, or estrogen in refractory cases. Given possible side effects of these medications, collaboration with a geriatric psychiatrist on management could be useful.

Given the off-label use of these medications, we suggest discussing risks and benefits with the substitute decision maker, with clear documentation. Consideration of patient comorbidities and potential secondary indications of medications (eg, agitation, depression, benign prostatic hyperplasia) can help guide therapy. As always, deprescribing is a component of good prescribing. If a medication is not effective in controlling the symptom after a reasonable trial, then it should be titrated off.

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Competing interests
None declared

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