Antipsychotic Drug Therapy in Older Adults

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Objectives

• Describe antipsychotic drug therapies
• Explore antipsychotic drug use in older adults
• Discuss alternative management strategies
Conflicts of Interest

• None
Discussion about antipsychotic drug therapy is timely…
Looking for Balance
Antipsychotic medication use in Ontario long-term care homes
Concern about antipsychotic drugs isn’t new…
Atypical Antipsychotic Therapy

• Began as niche drug for Schizophrenia and later bipolar disorder
• Atypical antipsychotic therapy introduced in 1990’s as an alternative to typical therapies
Atypical Antipsychotic Therapy

Therapies important in moving patients from institutions to community settings

Asylum for the Insane, Queen Street West, Toronto
Atypical Antipsychotic Therapy

Therapies important in moving patients from institutions to community settings

Asylum for the Insane, Queen Street West, Toronto
Behavourial and Psychological Symptoms of Dementia

- Restlessness, disruptive vocalizations, physical aggression are distressing manifestations of dementia
  - May occur in up to 90%

- Leads to
  - Increased caregiver burden
  - Premature admission to long-term care
  - Symptomatic treatment with medication

Pollock BG, Mulsant BH. Between Scylla and Charybdis: antipsychotic and other psychotropic medications in older nursing home residents. CMAJ. 2011 Apr.
Antipsychotic Drug Therapy

**Atypical**
- Olanzapine
- Risperidone
- Quetiapine

**Typical**
- Haloperidol
- Loxapine
- Thioridazine
## Clinical Context

<table>
<thead>
<tr>
<th>Drug Therapy</th>
<th>Labeled Indication</th>
<th>Benefit</th>
<th>Risk</th>
<th>Year of introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Clinical Indication: Schizophrenia &amp; Bipolar Disorders</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olanzapine</td>
<td>✔</td>
<td>Yes</td>
<td>Less</td>
<td>1996</td>
</tr>
<tr>
<td>Risperidone</td>
<td>✔</td>
<td>Yes</td>
<td>Less</td>
<td>1993</td>
</tr>
<tr>
<td>Quetiapine</td>
<td>✔</td>
<td>Yes</td>
<td>Less</td>
<td>1997</td>
</tr>
<tr>
<td><strong>Clinical Indication: Behavioural Problems with Dementia</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Olanzapine</td>
<td>✗</td>
<td>Unclear</td>
<td>Unclear</td>
<td></td>
</tr>
<tr>
<td>Risperidone</td>
<td>✔</td>
<td>Unclear</td>
<td>Unclear</td>
<td></td>
</tr>
<tr>
<td>Quetiapine</td>
<td>✗</td>
<td>Not evaluated</td>
<td>Unclear</td>
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</tr>
</tbody>
</table>
“The indication for risperidone in dementia has been restricted to the short-term symptomatic management of aggression or psychotic symptoms in patients with severe dementia of the Alzheimer type, unresponsive to non-pharmacological approaches and when there is a risk of harm to self or others. The indication no longer includes the treatment of other types of dementia such as vascular and mixed types of dementia.”
Antipsychotic Drug Use
Effectiveness of Atypical Antipsychotic Drugs in Patients with Alzheimer’s Disease

Lon S. Schneider, M.D., Pierre N. Tariot, M.D., Karen S. Dagerman, M.S., Sonia M. Davis, Dr. P.H., John K. Hsiao, M.D., M. Saleem Ismail, M.D., Barry D. Lebowitz, Ph.D., Constantine G. Lyketsos, M.D., M.H.S., J. Michael Ryan, M.D., T. Scott Stroup, M.D., David L. Sultzer, M.D., Daniel Weintraub, M.D., and Jeffrey A. Lieberman, M.D., for the CATIE-AD Study Group*

ABSTRACT

BACKGROUND

Second-generation (atypical) antipsychotic drugs are widely used to treat psychosis, aggression, and agitation in patients with Alzheimer’s disease, but their benefits are uncertain and concerns about safety have emerged. We assessed the effectiveness of atypical antipsychotic drugs in outpatients with Alzheimer’s disease.

METHODS

In this 42-site, double-blind, placebo-controlled trial, 421 outpatients with Alzheimer’s disease and psychosis, aggression, or agitation were randomly assigned to receive either olanzapine, risperidone, or placebo. The primary outcome measure was the Clinical Global Impressions—Improvement Scale. The study was stopped early because of increased mortality in the placebo group. The incidence of all-cause mortality was significantly higher in the placebo group than in the group that received olanzapine or risperidone. The groups had similar levels of efficacy. No statistically significant differences were observed in the incidence of extrapyramidal symptoms, sedation, or other adverse events.

From the Keck School of Medicine, University of Southern California, Los Angeles (L.S.S., K.S.D.); the Banner Alzheimer’s Institute, Phoenix, AZ (P.N.T.); Quintiles, Research Triangle Park, NC (S.M.D.); the National Institute of Mental Health, Bethesda, MD (J.K.H.); the University of Rochester Medical Center, Rochester, NY (M.S.I., H.A.R.); School of Medicine, University of
Prescribing shift to atypical antipsychotics

Use in Long-Term Care

- Frailest among older adult population.
- On average 85 years old, most women, most with dementia, often multiple chronic illness
- **20%** of residents are on **10 or more** different drugs
• 25% prescribed antipsychotic therapy
  ➢ 3%: Schizophrenia
  ➢ 1%: Bipolar disorders

➢ 21%: Off label
  ➢ Primarily for management of behavioural problems in dementia

Widespread Use

• Antipsychotic drugs are widely used in LTC
• Within one year of admission, almost ¼ of residents received new antipsychotic therapy without evidence of psychiatric disorder.

Why Drug Prescribing is Important

Physician cannot change

• The patient’s age
• The patient’s chronic medical conditions

“... the decision whether to prescribe any drug, the choice of drug, and the manner in which it is to be used... are all factors that are under control of the prescriber.”

Preventable Adverse Drug Events in Older Adults

- Adverse drug event are one of the most serious consequences of inappropriate prescribing.

- Well over half of the more serious events are preventable.
Use in Long-Term Care

- The **top 3** drug therapies most associated with adverse drug events in long-term care:
  - Warfarin
  - Atypical antipsychotics
  - Loop diuretics

Are Adverse Drug Events always easily recognizable?

Gurwitz, Rochon, Lee, et al., 2005
A "prescribing cascade" begins when an adverse drug reaction is misinterpreted as a new medical condition.
What is a Prescribing Cascade?

Initial Drug Therapy

New Medical Condition

New Drug Treatment

Further Medical Condition

Rochon PA, Gurwitz JH. BMJ 1997
Mrs A’s Prescribing Cascade

Atypical Antipsychotic

Risperidone

Parkinsonism

Anti-parkinson Drug Therapy

Levodopa Carbidopa

Hypotension

Rochon PA et al. Arch Intern Med 2005
Why are Prescribing Cascades not Recognized?

- Initial Drug Therapy
- New Medical Condition
  - Develops in hours or days
  - Well-recognized as drug-related
What is a Prescribing Cascade?

Initial Drug Therapy → New Medical Condition → New Drug Treatment → Further Medical Condition

Parkinsonism

- Develops in weeks to months
- Not well recognized as drug-related
- Perhaps confused with age-related changes
Prescribing cascades are examples of adverse drug events which have gone unnoticed and can be prevented.
Mrs A’s Prescribing Cascade

Re-evaluate need
Re-evaluate dose

Antipsychotic Drug

Risperidone

Gill SS, Rochon PA et al. Arch Intern Med 2005
Mrs A’s Prescribing Cascade

Antipsychotic Drug

Risperidone

Parkinsonism

Non-pharmacologic options

Gill SS, Rochon PA et al. Arch Intern Med 2005
Mrs A’s Prescribing Cascade

Antipsychotic Drug

Parkinsonism

Anti-Parkinson Drug Therapy

Hypotension

Gill SS, Rochon PA et al. Arch Intern Med 2005
Mrs A’s Prescribing Cascade

Antipsychotic Drug

Parkinsonism

Anti-Parkinson Drug Therapy

Improved Function

Risperidone

Hypotension

Gill SS, Rochon PA et al. Arch Intern Med 2005
Are atypical antipsychotics associated with Parkinsonism?

Our question almost a decade ago with the introduction of atypical antipsychotics
Antipsychotic Drug Therapy

Atypical
- Lower potency
  - Olanzapine
  - Risperidone
  - Quetiapine

Typical
- Lower potency
  - Thioridazine
- Higher Potency
  - Haloperidol
  - Loxapine
Ontario

Population: 13.5 million (2012)

Seniors: 1.98 million (2012) (14.7%)

http://www.statcan.gc.ca/tables-tableaux/sum-som/l01/cst01/demo31a-eng.htm
Dementia

New Antipsychotic

Atypical

One year

Typical

New Parkinsonism

Results

- 57,838 older adults
  - 20% receiving atypical antipsychotic
  - 25% receiving typical antipsychotic
  - 55% receiving neither
Antipsychotic-Induced Parkinsonism

<table>
<thead>
<tr>
<th></th>
<th>Adjusted HR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-antipsychotic comparison group</td>
<td>0.40 (0.29-0.43)</td>
</tr>
<tr>
<td>Atypical antipsychotic group</td>
<td>1.00 (Reference)</td>
</tr>
<tr>
<td>Typical antipsychotic group</td>
<td>1.30 (1.04-1.58)</td>
</tr>
</tbody>
</table>

The Hazards of High Dose

Are atypical antipsychotics associated with Parkinsonism?

The evidence appears to be ‘yes’, and at high doses have a similar risk to typicals.
If not atypical antipsychotics, what drug should we prescribe?

No safe drug alternative
Are non-pharmacologic approaches possible?
Non-pharmacologic approaches

- Decision to prescribe may be related to the nursing home environment.
- Some environments may be more permissive about use of antipsychotic therapy.

Rochon et al, Arch Intern Med, 2007
Talking about antipsychotic drug therapy is timely, but isn’t new
Looking for Balance

Antipsychotic medication use in Ontario long-term care homes
Care homes vary wildly in prescription of antipsychotics, study finds

ANDRÉ PICARD - PUBLIC HEALTH REPORTER
The Globe and Mail
Published Wednesday, May. 20 2015, 12:01 AM EDT

Wild variations in the number of residents in long-term care who are prescribed antipsychotic medications are focusing new attention on how and why these powerful drugs, which can have serious side effects, are used so routinely.

A study of 604 long-term-care homes in Ontario, to be released Wednesday, found that anywhere from zero to 67 per cent of residents over the age of 65 are treated with antipsychotics after a diagnosis of psychosis, dementia or other conditions that can leave them highly agitated.

While the drugs are calming, the side effects include a higher risk of falls, profound drowsiness, lessened quality of life, and a slightly increased risk of death. There are even complaints that the drugs are used to “chemically restrain” patients in long-term care.

But Joshua Tepper, president and CEO of Health Quality Ontario which conducted the study, said it’s not as simple as saying the drugs are
Seniors given needless antipsychotic drugs; Doctors too quick to medicate, author says

Ontario nursing homes too quick to give seniors antipsychotic drugs they don't need, study finds

Minister says bill will address drugging of nursing-home seniors

Ontario nursing homes too quick to give seniors antipsychotic drugs they don't need, study finds
Are antipsychotics prescribed differently in different long-term care homes?

Ontario

485 Nursing homes
47,322 residents
Non-pharmacologic approaches

• One-third of residents are prescribed an antipsychotic therapy

• Use varies greatly across long-term care homes

• Residents looked similar across homes
Table 2. Characteristics According to Nursing Home Antipsychotic Drug Therapy Prescribing Rates

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall</th>
<th>Quintile</th>
<th>Quintile</th>
<th>Rate Ratio (Q5/Q1)</th>
<th>Rate Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Q1</td>
<td>Q3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Antipsychotic prescribing rates, range</td>
<td>32.4%</td>
<td>3.3-25.5%</td>
<td>30.7-34.3%</td>
<td></td>
<td>NA</td>
</tr>
<tr>
<td>Facilities</td>
<td>485</td>
<td>21.4%</td>
<td>17.3%</td>
<td>22.3%</td>
<td>NA</td>
</tr>
<tr>
<td>Residents</td>
<td>47322</td>
<td>19.9%</td>
<td>19.6%</td>
<td>19.5%</td>
<td>NA</td>
</tr>
</tbody>
</table>

**Resident-Level Characteristics**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Overall</th>
<th>Q1</th>
<th>Q3</th>
<th>Q5</th>
<th>Rate Ratio (95% CI)</th>
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</thead>
<tbody>
<tr>
<td>Demographic</td>
<td>84.4</td>
<td>85.0</td>
<td>84.2</td>
<td>84.0</td>
<td>0.99 (0.99-0.99)</td>
</tr>
<tr>
<td>Age, mean, y</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Comorbidity</td>
<td>1.7</td>
<td>1.7</td>
<td>1.8</td>
<td>1.7</td>
<td>0.97 (0.94-1.01)</td>
</tr>
<tr>
<td>Charlson index, mean, score</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Drug count, mean, No.</td>
<td>10.7</td>
<td>10.4</td>
<td>10.6</td>
<td>10.6</td>
<td>1.02 (1.00-1.03)</td>
</tr>
</tbody>
</table>

**Clinical groups**

<table>
<thead>
<tr>
<th>Potential clinical indication for antipsychotic therapy</th>
<th>Overall</th>
<th>Q1</th>
<th>Q3</th>
<th>Q5</th>
<th>Rate Ratio (Q5/Q1)</th>
<th>Rate Ratio (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Psychoses, with or without dementia</td>
<td>21.7%</td>
<td>17.5%</td>
<td>23.4%</td>
<td>22.9%</td>
<td>1.31 (1.26-1.35)</td>
<td></td>
</tr>
<tr>
<td>Dementia, without psychoses</td>
<td>61.6%</td>
<td>63.1%</td>
<td>58.9%</td>
<td>61.6%</td>
<td>0.98 (0.95-1.00)</td>
<td></td>
</tr>
<tr>
<td>No potential clinical indication for antipsychotic therapy: without psychoses or dementia</td>
<td>17.0%</td>
<td>19.4%</td>
<td>17.7%</td>
<td>15.5%</td>
<td>0.80 (0.72-0.88)</td>
<td></td>
</tr>
</tbody>
</table>

Residents in homes with highest antipsychotic prescribing rates were 3 times more likely to be prescribed an antipsychotic.
The 2010 baseline rate reported by HQO is virtually identical to a rate of 32.4% in 2003.


FIGURE 3.2
Percentage of long-term care home residents 65 years or older who were using antipsychotic medication with a diagnosis of a specific medical condition on March 31, 2013, in Ontario

47.2% of residents with psychosis have a prescription for antipsychotic medication

26.9% of residents with dementia (without psychosis) have a prescription for antipsychotic medication

12.0% of residents without dementia or psychosis have a prescription for antipsychotic medication

Data sources: CCRS, DAD, ODB claims database, OHIP claims database, OMHRS and RPDB, provided by ICES. Notes: Antipsychotic use values were adjusted for sex, age group and comorbidity. Residents were identified as having a documented diagnosis of psychosis or dementia based on physician, drug and hospital claims data (DAD, ODB claims database, OHIP claims database and OMHRS). Residents with neither psychosis nor dementia according to the administrative sources listed above may have a diagnosis of psychosis or dementia noted in other data sources, such as the RAI-MDS data in the CCRS. See the online technical appendix for more information.

Are antipsychotics prescribed differently in different long-term care homes?

Yes, indicating cultures in homes differ, and an opportunity for non-pharmacologic approaches.
OBRA-87 – US Federal Regulations

- OBRA-87 regulations introduced to restrict the use of antipsychotic therapy in US nursing homes.
- Introduced when ~25% of residents were dispensed typical antipsychotic therapies.
- Post-OBRA, decreased to 17%
- Centres for Medicare and Medicaid Services have identified prescribing antipsychotic therapy to residents with no indication as measure of poor quality of care.
The National Partnership to Improve Dementia Care, a public-private coalition, today established a new national goal of reducing the use of antipsychotic medications in long-stay nursing home residents by 25 percent by the end of 2015, and 30 percent by the end of 2016. The coalition includes the Centers for Medicare & Medicaid Services (CMS), consumers, advocacy organizations, providers and professional associations.

Between the end of 2011 and the end of 2013, the national prevalence of antipsychotic use in long-stay nursing home residents was reduced by 15.1 percent, decreasing from 23.8 percent to 20.2 percent nationwide. The National Partnership is now working with nursing homes to reduce that rate even further.
If not a drug, then what?
United Kingdom

Introduction of training and support interventions in UK nursing homes that focus on alternatives to drug use for the management of agitated behaviour

– Reduced use of antipsychotics by 20%

Source: Fossey J. Effect of enhanced psychosocial care on antipsychotic use in nursing home residents with severe dementia: cluster randomised trial. BMJ 2006
Dementiaville - How an experimental new town is taking the elderly back to their happier and healthier pasts with astonishing results

It’s a bit early for a cocktail – yet Lex Jacott and Henk de Rooy are enjoying a giggle over a glass of chilled port. Lex and Henk, aged 84 and 76, are residents of a place that has been dubbed ‘Dementiaville’ – the world’s first and only village for dementia patients.

Dr. Kjell Krüger and his colleagues at Løvåsen nursing homes cut down on the use of antipsychotic drugs such as Risperdal, Zyprexa and Seroquel.

Today, fewer than five elderly patients with dementia in Løvåsen nursing homes take antipsychotics.

“I think that environment also plays a major role in the quality of dementia care”, says Dr. Krüger. Formerly, patients lived on units of 26 patients. Now, they live in groups of eight. We have a better understanding of our patients. If someone gets upset, we see it and can calm them directly, perhaps with a short walk.”
A Minnesota nursing home trained staff, including housekeepers and cooks, in tools to calm and reassure its residents, including exercise, activities, music, massage, and aromatherapy.
Improving the lives of patients at personal care homes in Winnipeg and beyond
Innovative approach finds major savings

The Problem
For years, healthcare providers at the Winnipeg Regional Health Authority (WRHA) have collected data showing that residents with dementia report markedly lower use of antipsychotic drugs. This approach, known as the "Physical, Intellectual, Emotional, Capabilities, Environment, and Social care model" or P.I.E.C.E.S'". The P.I.E.C.E.S approach encourages staff to treat patients by looking at not only their health files, but also their personal histories, such as their former careers.

The Impact
Puchniak and Sinclair discovered that facilities where residents with dementia reported markedly lower use of antipsychotic drugs, relied on the 'Physical, Intellectual, Emotional, Capabilities, Environment, and Social care model' or P.I.E.C.E.S'. The P.I.E.C.E.S approach encourages staff to treat patients by looking not only at their health files, but also at their personal histories, such as their former careers.

During the six-month improvement project, of the 70 residents already on antipsychotic medications, 27 percent (19 patients) were taken off their medication. This translates to a 25 percent reduction of antipsychotic medications for the total resident population. This was also achieved without causing any increase in behavioural symptoms or rise in the use of physical restraints.
Behavioural Supports Ontario

Here you will find links to resources, tools and people related to Behavioural Supports Ontario (BSO). The RIGHT CARE at the RIGHT TIME and in the RIGHT PLACE, BSO enhances the health care services of seniors across Ontario, their families and caregivers, who live and cope with responsive behaviours associated with dementia, mental illness, addictions and other neurological conditions, when they require it and wherever they live, at home, in long-term care or elsewhere.

I want to

Find resources
Discover new resources, knowledge and people you need to achieve your goals:

- Learn about the BSO Project
- Access information about the BSO Project
- Browse Responsive Behaviours and Complex Need resources
- Browse ALL Dementia related resources by topic
- View presentations

Get connected
Find answers to your questions, engage with others on topics, and make new things possible:

- Have a question? Ask the community*
- Join a Community of Practice or Collaborative
- Find YOUR Local BSO Lead
- Participate in events

Stay updated
Recieve My AKE Connection emails on updates, events and opportunities.

sign-up | issue 27 | BSO News Archive

Featured Resources:

- Capacity Building Suite / Decision Tree
- Complex Care Resolution For Older Adults with Responsive Behaviours
- Primary Care Strategic Elements
- National Behavioural Support Systems Guiding Principles and Recommended Components

......ALL Responsive Behaviours and Complex Needs Resources

* hosted by dementiaknowledgebroker.ca
Consider non-pharmacologic approaches first

If a drug therapy is needed in addition to non-pharmacologic approaches:
- Consider alternative drugs that might be safer
- Reduce the dose to the lowest effective dose
- Beware of prescribing cascades
- Re-evaluate ongoing need
Conclusion

• Described the importance of antipsychotic drug use in older adults

• Explored antipsychotic drugs and adverse events

• Discussed alternative management strategies
Ongoing financial support of our work has been made possible by several Canadian Institutes of Health Research grants, including:

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- **Interdisciplinary Capacity Enhancement grant (HOA-80075)**, from the CIHR Institute of Gender and Health and Institute of Aging.
Questions?