Ropinirole-associated orthostatic hypotension as cause of prescription cascade in an elderly man

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INTRODUCTION

PRESCRIBING CASCADE

- Initial Condition
  - Initial Drug Therapy—Prescribed
- New Symptom (New Medical Condition)
  - Subsequent Over-the-Counter Therapy
  - Subsequent Prescription Drug Therapy
  - Subsequent Medical Device
  - Subsequent Diagnostic Testing

Common Examples

- Agitation
- Antipsychotic
- Falls
- Antipsychotic

Elderly patients are most susceptible to prescribing cascades

Prescribing cascades are a public health issue

CASE PRESENTATION

INITIAL PRESENTATION


Chief Complaint
- Generalized weakness
- Difficultly standing from sitting position
- Fall without head trauma

Similar symptoms with 4 falls and 2 admissions over last 8 months

Vital Signs
- BP 110/70, HR 88 (Supine)
- BP 87/70, HR 70 (Standing) T= 98.8°F
- O2 sat 97% on room air

Physical Exam
- Dry oral mucous membranes
- Known ejection murmur

Differential Diagnosis
- Volume depletion—Excessive diuresis
- Cardiac syndrome

HOSPITAL COURSE

<table>
<thead>
<tr>
<th>Discontinue</th>
<th>Continue</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ropinirole</td>
<td>Furosime, Canvedilol, Cafergot</td>
</tr>
<tr>
<td>Midodrine, Compression stockings</td>
<td></td>
</tr>
<tr>
<td>Start</td>
<td>Monitor</td>
</tr>
<tr>
<td>IV Fluids</td>
<td>Daily BP Orthostatic Vitals</td>
</tr>
<tr>
<td>Creatine improved</td>
<td>Continued to be orthostatic</td>
</tr>
<tr>
<td>10 months prior to admission, patient was started on ropinirole 0.25 mg TD for asymptomatic restless legs syndrome and maintained in a sleep study</td>
<td></td>
</tr>
<tr>
<td>Symptoms improved</td>
<td>Not orthostatic</td>
</tr>
<tr>
<td>Symptom-free Discharged home</td>
<td></td>
</tr>
</tbody>
</table>

In a follow-up visit 1 month after discharge, the patient was symptom-free.

PROPOSED PRESCRIBING CASCADE

- Polysonogram shows restless legs during sleep
- Symptomatic orthostatic hypotension 4 falls + 2 admissions
- Symptomatic orthostatic hypotension Fall without head trauma

IMPLICATIONS FOR CLINICAL PRACTICE

Before Prescribing Ropinirole
- Monitor for symptomatic orthostatic hypotension and falls, especially in elderly patients
- Caution use of ropinirole for asymptomatic RLS
- Prescribe at the lowest dose possible for symptom relief

After Prescribing Ropinirole
- Monitor for symptomatic orthostatic hypotension and falls, especially in elderly patients
- Determine if:
  - Ropinirole dose can be reduced
  - Ropinirole can be stopped

REFERENCES

- Hening, W., Allen, R., Washburn, M., Lesage, S. and Earley, C., 2009. The four diagnostic criteria for Restless Legs Syndrome are unable to exclude confounding conditions ("mimics"). Sleep Medicine, 10(9), pp.976-981.

COST-BENEFIT ANALYSIS

DRG 312: Syncope & Collapse
1951: Orthostatic Hypotension

Costs of the Prescribing Cascade
- Direct Costs
  - Hospital Stay
  - Prescription Medications
  - Medical Equipment
  - Unnecessary Diagnostic Tests

Indirect Costs
- Transportation Time

Costs
- 2 Admissions
- Total Cost: $64,906.22

Benefit of Depressing
- Avoid future hospital stays and outpatient visits
- Avoid further overprescribing
- Improve quality of life and autonomy

Steps to Interrupt the Prescribing Cascade

- ASK: Is a long-term drug prescribed to address an adverse event from a previously prescribed medication?
- IDENTIFY: The medication that led to the prescribing cascade
- ASSESS: Is the drug responsible for the benefit of continuing to use the medication?
- ACT: Stop or reduce medication dose, if aligns with patient goals

CONCLUSIONS

An elderly patient with recurrent episodes of symptomatic orthostatic hypotension and falls being managed with midodrine and compression stockings was found to have been prescribed ropinirole (REQUIP) for asymptomatic restless leg syndrome approximately two months prior to onset of symptoms.

Upon cessation of ropinirole, the patient had resolution of symptomatic orthostatic hypotension up to 1 month after discharge.

Conclusion
- Ropinirole, in leading to orthostatic hypotension requiring hospitalization and treatment, initiated a prescribing cascade in this patient.