REPEAT ADVERSE DRUG REACTION-RELATED HOSPITAL ADMISSIONS IN ELDERLY AUSTRALIANS

Parameswaran Nair N1, Chalmers L1, Bereznicki B1, Curtain C1, Connolly M2, Bereznicki L1
1Division of Pharmacy, University of Tasmania, Hobart, Tasmania, Australia, 2Royal Hobart Hospital, Hobart, Tasmania, Australia

OBJECTIVES

- Adverse drug reactions (ADRs) are one of the main reasons for medication-related hospital admission in elderly patients living in the community.
- This study investigated the occurrence of repeat ADR-related hospital admissions in elderly patients within 12 months of a hospital admission to a medical ward due to an ADR.
- This study also evaluated whether an ADR prediction score (the PADR-EC score) could be useful to identify patients at higher risk of a repeat ADR-related hospitalization.

METHODS

- This retrospective study was conducted at the 500-bed Royal Hobart Hospital, Hobart, Australia.
- Data were collected from the digital medical records of elderly participants in the PADR-EC (Prediction of Hospitalization due to Adverse Drug Reactions in Elderly Community-Dwelling Patients) study1 who experienced a subsequent admission due to an ADR within 12 months.
- A score of ≥ 6 indicates a high risk of ADR-related hospitalization.
- The PADR-EC score, the sum of points assigned to five significant predictors of ADR-related hospitalization, was applied at discharge of the index admission.
- Causality, preventability and severity of each ADR admission were assessed using the Naranjo algorithm, modified Schumock and Thornton criteria and Hartwig’s criteria, respectively.

The PADR-EC Score

<table>
<thead>
<tr>
<th>Variable</th>
<th>Points</th>
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<tbody>
<tr>
<td>Drug changes in the preceding 3 months</td>
<td>2</td>
</tr>
<tr>
<td>Renal failure (eGFR &lt;60mL/min/1.73m²)</td>
<td>2</td>
</tr>
<tr>
<td>Dementia</td>
<td>2</td>
</tr>
<tr>
<td>Anticholinergics (potentially inappropriate)</td>
<td>2</td>
</tr>
<tr>
<td>Number of antihypertensives:</td>
<td></td>
</tr>
<tr>
<td>1-2</td>
<td>3</td>
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<tr>
<td>≥3</td>
<td>5</td>
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</tbody>
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RESULTS

- Eighteen (17%) ADR-related repeat admissions occurred after 112 ADR-related index admissions.
- Fifteen (83.3%) patients had a PADR-EC score ≥ 6 at hospital discharge after their index admission.
- The 18 patients with a repeat ADR-related admission had higher PADR-EC scores at their index admission discharge (mean 7.2 ± 2.0) than patients who were not readmitted (6.1 ± 1.9), P=0.019.
- Most (89%) ADR-related repeat admissions were ‘preventable’.
- All ADR-related repeat admissions were considered ‘probable’.
- ADR severity was ‘moderate’ in all ADR-related repeat admissions.
- Renal disorders (38%) were the most common ADRs, followed by endocrine/metabolic disorders (33%).
- The most frequently implicated drug classes were diuretics (39%) and renin-angiotensin system inhibitors (25%).

CONCLUSIONS

- One in six elderly patients hospitalized due to an ADR had a repeat ADR admission within 12 months of discharge.
- Improved medication management services at the point of discharge and in primary care are required to address unnecessary repeat admissions due to preventable ADRs.
- The PADR-EC score could be used at hospital discharge to prioritize patients for interventions to prevent subsequent ADR-related hospital admission.

Reference