Denosumab is a subcutaneous injection administered in clinic every six months for the treatment of osteoporosis.

Denosumab reduces bone loss in patients at high risks of bone fractures, but risk of fractures increases when stopping therapy without reasonable cause.

Reasonable interruptions to therapy include dental procedures, fractures from trauma, infections, and certain adverse effects.

Little research has been done to explore rates and reasons for lapses in denosumab therapy in real-world settings.

To assess frequency and reasons for treatment lapses in patients prescribed denosumab

To explore predictors of treatment lapses

BACKGROUND

OBJECTIVES

METHODS

ASSESSING RATES AND REASONS FOR TREATMENT LAPSES IN PATIENTS TREATED WITH DENOSUMAB

Table 1. Sample Characteristics (n=534)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Median [IQR] or n (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, years</td>
<td>69 [62-77]</td>
</tr>
<tr>
<td>Number of doses received</td>
<td>6 [3-9]</td>
</tr>
<tr>
<td>Race, White</td>
<td>506 (95)</td>
</tr>
<tr>
<td>Gender, female*</td>
<td>461 (66)</td>
</tr>
<tr>
<td>Smocking status</td>
<td>461 (66)</td>
</tr>
<tr>
<td>Number smoked</td>
<td>360 (67)</td>
</tr>
<tr>
<td>Current or former smoker</td>
<td>174 (33)</td>
</tr>
<tr>
<td>Comorbidities</td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>68 (13)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>335 (63)</td>
</tr>
<tr>
<td>Chronic kidney disease</td>
<td>164 (31)</td>
</tr>
<tr>
<td>Fractures</td>
<td></td>
</tr>
<tr>
<td>Before treatment</td>
<td>381 (71)</td>
</tr>
<tr>
<td>After first dose</td>
<td>68 (13)</td>
</tr>
</tbody>
</table>

37% of patients incurred a total of 252 lapses

100% of women who were postmenopause

In logistic regression, no patient characteristics were associated with likelihood of lapse (all p-values >0.05).

RESULTS

CONCLUSIONS

Lapses were common

Most for medical reasons (e.g., to reduce risk of adverse effects)

No patient characteristics associated with treatment lapses were identified

To prevent lapses, pharmacists can:

- Coordinate care
- Help patients navigate insurance
- Offer patients solutions to scheduling or transportation barriers

- Identify patients at risk for treatment lapses
- Develop pharmacist-led, patient-centered interventions to promote higher adherence to osteoporosis therapy

Characteristics for Treatment Lapses

Patient death or cancellation

Financial or insurance problem

Lab test not completed or reordered in time

Coordinating care with multiple clinics

Upcoming dental procedure

Other illness or non-dental infection

Upper respiratory tract infection

Adverse reaction

Medication hold

Low calcium or vitamin D

Admission to hospital or nursing facility

Surgeon

Urine tract infection

Required for research study

Patient concerned about adverse effect or other

No explanation documented

Other (n = 9; 16%)

In Figure 3, the number of lapses in patients based on patient characteristics is shown. The graph illustrates the distribution of lapses across different patient characteristics, with a focus on patients at risk for treatment lapses.

Figure 2. Reasons for Treatment Lapses

Figure 3. Predictors for Patient Lapses

In logistic regression, no patient characteristics were associated with likelihood of lapse (all p-values >0.05).

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REFERENCES
