We found variation in incidence of subsequent fractures across countries, primary care, and hospital data. Under-diagnosis and treatment of osteoporosis require greater focus for better quality of care across aging population in Europe.

Imminent Subsequent Fractures In Postmenopausal Women With Fragility Fractures: Incidence And Patient Characteristics From Six European Countries

Background: The occurrence of a first fragility fracture increases the imminent risk of subsequent fractures in the next 1 to 2 years. Most studies have been conducted in a single country or using different methodologies, making comparison between countries difficult.

Results:

- Patients with imminent subsequent fractures (ISF) had higher rates of comorbidities and comedinations.
- Low osteoporosis treatment across countries (1.7 - 15.9%).

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>ISF (n = 38904)</th>
<th>Non-ISF (n = 14204)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>63.6</td>
<td>64.4</td>
</tr>
<tr>
<td>Hypertension</td>
<td>35.3</td>
<td>35.3</td>
</tr>
<tr>
<td>Hypothyroidism</td>
<td>10.3</td>
<td>10.3</td>
</tr>
<tr>
<td>Diabetes</td>
<td>51.6</td>
<td>51.6</td>
</tr>
<tr>
<td>Cancer</td>
<td>19.5</td>
<td>19.5</td>
</tr>
</tbody>
</table>

Figure 1. Incidence rate of ISF per 1,000 person-years [95% CI]

- ISF in primary care occurred most frequently at the same site of the index fracture, whilst in hospital records: non hip non vertebral (NHNV) in UK, hip in Spain.

Figure 2. Two-year cumulative incidence of ISF

Strength: Network study allowed for the same methodology to be applied across six different European data sources.

Limitation:

Hospital records in UK and Spain did not include emergency room visits, thus missing fractures which do not need to be hospitalised. Higher IR of subsequent fractures in primary care could indicate re-recording of initial fracture.

Methods

1. Data sources

2. Eligibility criteria

   Inclusion Criteria:
   - Women aged ≥50 years
   - Index fragility fracture between April 2010 to April 2018
   - ≥730 days observation period prior to index fracture

   Exclusion Criteria:
   - History of fracture in 730 days prior
   - Cancer (except non-melanoma skin cancer), Paget's disease of the bone, or other metabolic bone diseases at any time prior to and including index date

3. Study design

   Statistical analysis:
   - Incidence rate (IR) per 1,000 person years (PY) of ISF
   - Site-specific cumulative stratification, by the index fracture site, accounting for competing risk of death

Xihang Chen, Trishna Rathod-Mistry, Gianluca Fabiano, Antonella Delmestri, Alireza Moayyeri, Joshua Warden, Carlen Reyes, James Brash, Katia Verhamme, Mees Mosseveld, Sarah Seager, Rafael Pinedo-Villanueva, Eng Hooi Tan

1Nuffield Department of Orthopaedics, Rheumatology and Musculoskeletal Sciences, University of Oxford, Oxford, UK; 2UCB Pharma, Slough, UK; 3Fundació Institut Universitari per a la recerca a l’Atenció Primària de Salut Jordi Gol i Corina (IDIAPJGol), Barcelona, Spain; 4IQVIA, London, UK; 5Erasmus University Medical Center, Rotterdam, The Netherlands.

This study was funded by UCB Pharma and Amgen Inc. Graphical design support for figures provided by the Costello Medical design team.