BPs treatment results in decrease in the risk of vertebral and non-vertebral fractures. However, long-term BP treatment is associated with adverse events, including atypical fractures of the femoral diaphysis (AFF) and osteonecrosis of the jaw. Epidemiological data indicate that AFF account for less than 1% of all hip and femoral fractures. Characteristic features of AFF include their unique radiological features, long-term prodromal pain, occurrence after minimal or no trauma, bilaterality and delayed healing. Although the causal association between long-term BP use and AFF is still debated, the most likely mechanisms relate to the suppression of bone turnover leading to attenuation of bone material properties, including increase in density and homogeneity of mineralization, collagen maturity, microcrack accumulation, propagation and impaired

Table 1. Record of the patient’s laboratory examinations in relation to the most important clinical events

<table>
<thead>
<tr>
<th>BP initiation</th>
<th>(L) thigh pain</th>
<th>(L) FEMUR</th>
<th>TRP initiation</th>
<th>continuing (L) thigh pain</th>
<th>initiation of (R) thigh pain</th>
<th>completion of TRP initiation of SR</th>
<th>1 year of SR/ present</th>
</tr>
</thead>
<tbody>
<tr>
<td>-13 years</td>
<td>-</td>
<td>-</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>11</td>
<td>stable</td>
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<table>
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<th>0</th>
<th>3</th>
<th>10</th>
<th>15</th>
<th>22</th>
<th>35</th>
<th>47</th>
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</table>

**Bone markers**
- in normal range
- (PINP: 69.86 ng/ml, increase 160%)
- in normal range
- in normal range

**BMD (g/cm²) / T-score**
- LS 0.757 / -3.5
- (L)FN 0.645 / -2.8
- (L)TH 0.754 / 2.0
- LS 0.800 / -3.2
- (R)FN 0.645 / -2.8
- (R)TH 0.797 / -1.7
- LS 0.870 / -2.8
- (R)FN 0.652 / -2.7
- (R)TH 0.804 / -1.6
- LS 0.940 / -2.0
- (R)FN 0.641 / -2.8
- (R)TH 0.815 / -1.5

**Bone scintigraphy**
- signs of bone healing
- partial reduction in radioisotope uptake in the (R) femoral midshaft
- stable

**MRI (R) femur**
- (STIR) MRI imaging revealed subtle linear intracortical hyperintensity at the (R) femoral diaphysis
- normal