Reviewer's report

Title: Cost of non-persistence with oral bisphosphonates in post-menopausal osteoporosis treatment in France

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Reviewer: bernard cortet

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MENOPAUSAL OSTEOPOROSIS TREATMENT IN FRANCE. Cotté and de Pouvourville.

General comments

Compliance is a great concern in the field of chronic diseases. Particularly the extent of compliance concerns has been well demonstrated for osteoporosis. Consequently poor adherence is associated with decreased antifracture efficacy for bisphosphonates. In this context it is useful to assess the cost of non-persistence with oral bisphosphonates. Therefore the paper is of interest. 2 concerns should be raised however. First, the authors used a Markov model that is usual. However by which mean this cohort was constituted is not clear. For example they indicated that with no treatment for a 10-year period and using a Monte-Carlo simulation the total number of fractures would be 20,401. The authors should clearly indicate by which mean they obtained this number. Second, it seems that they used data extracted from PMSI source but this approach raises several concerns.

1- For vertebral fracture it is clear that the majority of vertebral fractures does not require a hospitalization. One estimates that only 10% of vertebral fractures requires to be hospitalized. Moreover for vertebral fractures, how the authors distinguished between osteoporotic fractures on one hand and traumatic or vertebral fractures due to malignancy in the other hand.

2- The same remark can be done for wrist fractures. Indeed a high proportion of patients with wrist fractures are treated as outpatients.

Specific comments

1- Introduction, p. 6 (2nd paragraph): The authors should indicate the strength of the present approach compared with previous studies done on this field.

2- Methods, p. 8 (Figure 2): It is not clear why the authors did not use arrows indicating a possible relationship between for example both vertebral fractures and hip fractures and death.

3- Results, page 14, Table 2: Finally the overall cost for each fracture is?. This point should be clearly explained.

4- Results, page 17, Table 3: The number of clinical fracture for each category is
slightly different from the number of fractured women. The authors should comment on this point.

5- Discussion, page 21: At the end of the page the authors indicate that monthly regimen would become the standard of oral bisphosphonates dosing frequency; I am not sure. Indeed the level of proofs for ibandronate in terms of prevention of hip fracture is not the same compared with others bisphosphonates. Secondly ibandronate will ne unreimbursed in France in 2011.

6- Discussion, page 22: At the top of the page the authors claim that intravenous bisphosphonates in the field of osteoporosis could be practically restricted to niche of institutionalized patients; I am not sure that this sentence is really relevant.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests