Reviewer's report

Title: Changes in the serum vitamin D and PTH values using denosumab with or without bisphosphonate pre-treatment in osteoporotic patients: A short-term study

Version: 2
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Reviewer: Mark Cooper

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This is a small study with findings of interest. However, the findings are considerably overstated and lots read in to small differences or lack of differences most likely due to small sample sizes. Much of the data relating to changes in active vitamin D and PTH and the complicated explanations are difficult to believe given that the patients were treated with calcium and vitamin D as well as the DMab.

Major:
1. Last line of abstract does not read well. What does this mean?
2. I think it is wrong to say that denosumab has bone forming properties in the abstract conclusion as this is only in a restricted group of patients at one time point.
3. Need to say what the type of BP treatment was. Oral or IV.
4. Need to say whether any individual had a serum calcium outside the normal range (high or low).
5. The whole issue of bone formation markers was not covered well. DMab will decrease formation in the long term.
6. Second line of the discussion does not seem appropriate. These drugs have not been compared directly and inferences regarding their anti-fracture effects cannot be drawn.
7. Again, the discussion about coupling is only based on a small number of patients and this data is not solid compared to the data based on thousands of patients in the RCTs of these drugs. This study did not have a control arm or a placebo arm so many of the conclusions may not be as the authors suggest.
8. There was only 1 line regarding limitations. Were these really the only limitations?
9. A medical services writer was used. However, many parts of the manuscript were difficult to understand. It was unclear if this was a problem with the authors not been clear in their own minds or whether this was a translation problem.
10. Looking at figure 2, denosumab leads to a similar reduction in both bone formation markers to the baseline in the BP treated group. There is thus no evidence that denosumab has less impact on bone formation than BPs.
Furthermore in people who have previously had BP the level of bone formation marker appears to decrease even further at the last time point (even if the low numbers mean this is not significant). Thus DMab appears to have a more powerful effect that BPs to suppress bone formation.

11. It would be helpful to have a clear statement that the authors have no received hospitality, honoraria, travel expenses etc via the companies that market denosumab.

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests