Reviewer’s report

Title: A short-term in vivo model for giant cell tumor of bone

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Reviewer: Sofia Avnet

Reviewer’s report:

From the response of authors I am now more convinced that the multinucleated giant cells are osteoclasts rather than macrophages, and I re-evaluated the impact of the paper. However, they cannot demonstrate if these osteoclasts derived from the grafted tumor cell suspension, as already differentiated cells, or if they formed in the 6 days period of incubation from the human monocytic precursors. A sentence in the author’s response states “GCT multinucleated cells did resist the treatment described – they are remarkably hardy – as evidenced by the morphological and immunophenotypic findings”. If I understood well, they referred to analyses performed in the tumor tissue in the CAM and not to analyses performed in the cell suspension before the grafting. Authors themselves referred in a response to a reviewer that they could not verify the presence of osteoclasts before the grafting. From the presented data, it seems that the osteoclasts in the graft are newly formed. 1) The authors obtained osteoclasts only with few nuclei, whereas in GCT the number of nuclei in osteoclasts are much more, therefore both osteoclasts with few and many nuclei should survive in the tissue in the CAM; 2) the small number of nuclei in osteoclasts observed in the GCT in the CAM can be explained considering the timing: only a small number of monocytes can fuse to form new osteoclasts in 6 days.

However, to understand whether osteoclasts in the GCT model are newly formed or directly derived from the tissue patient is not a crucial point of the paper.

Therefore, I consider the paper in the present form as acceptable.

Minor Essential Revisions:

There is only a minor concern. As well described in the results and in the discussion sections, the authors could find only few osteoclasts and with few nuclei in the grafted GCT, whereas osteoclasts in GCT biopsies are strongly represented. Therefore, the authors should add a sentence regarding this limit of the study also in the abstract.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Acceptable
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