Reviewer's report

Title: Biological and biomechanical evaluation of interface reaction at conical screw-type implants

Version: 1 Date: 22 November 2005

Reviewer: Zafer Cehreli

Reviewer's report:

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

Comments:
This study is undertaken to explore early bone apposition and interface biomechanical properties around a new parabolic implant design under unloaded conditions. The experiments are well-designed and the methodology employed for biological and biomechanical evaluation of the implants is appropriate.
It is interesting to note that the bone implant contact (bone mass) increases by 10% over a month period, but the RTV and RFM of the implants stay almost stable. This implies that the biomechanical properties of the healing interface (interface stiffness) does not increase at the clinical level and it is probably not the macrodesign but the microtopography of implants that leads to this result. Taking the test period into account, the cortical bone surrounding the implant neck conceals the improvement in RF analyses, and since the biomechanical properties of the healing bone tissue is very low, in comparison with cortical bone, the RTV does not increase. This should be emphasized in the discussion part of the manuscript. It would also be appropriate to indicate the Ra value of the implant surface in the manuscript (page 4, implant system). The number of figures of the histologic-histomorphometric as well as SEM analyses may be reduced by 50%. For example, one image of the histologic section of the entire implant and a magnified view of differentiating tissue in the vicinity of the implant thread, implemented in the same image, would satisfy the reader.

What next?: Accept after minor essential revisions

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