Reviewer's report

Title: Principles of Cartilage Tissue Engineering in TMJ Reconstruction

Version: 1 Date: 8 August 2007

Reviewer: Edela Puricelli

Reviewer's report:

General

-------------------------------------------------------------------------------

Major Compulsory Revisions (that the author must respond to before a decision on publication can be reached)

The manuscript introduces the subject of cartilage defects and their importance to joint integrity, particularly in TMJ. In the topic “Cartilage histology”, the main types of cartilage, and their histological and molecular characteristics, are reviewed. The therapeutic potential of surgeries is considered, and then the main subject is approached (“Cellular repair strategies”).

The manuscript represents an adequate review on cartilage tissue engineering, and is very useful for researchers and health professionals working in this area. The text, however, is almost completely centered in the use of chondrocytes for tissue engineering. Only a few lines (at the end of page 11 and beginning of page 12) consider a possible role of other cells in the process. The therapeutic potential of other types of cells, such as the mesenchymal stem cell, is currently very well established, so that they should be discussed in great detail under the title “Principles of Cartilage Tissue Engineering in TMJ Reconstruction”. I would thus suggest that either the manuscript is changed to include more detailed information on the role of other cell types in cartilage tissue engineering, or its title is changed to “Principles of Cartilage Tissue Engineering Using Chondrocytes in TMJ Reconstruction”.

-------------------------------------------------------------------------------

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

- The abbreviation TMJ should be expanded when first mentioned;
- The manuscript should be reviewed for the English language, due to some problems as exemplified below:
  - page 4: “It is important to note that in contrast to maxillofacial surgery, where recently the economically most important skeletal tissue substitute is bone cartilage plays the most prominent role in orthopaedics” – there is probably a comma missing after the word “bone”;
  - page 8 – the word “autologenic” should be replaced with “autologous”
  - page 8 – “The basic biological principle behind the use of these cell based
techniques is the fact that perichondrial and periosteal tissue as well as isolated cell suspensions (ACT) contains cell that possess a lifelong chondrogenic.” – the sentence is incomplete.

Discretionary Revisions (which the author can choose to ignore)

**What next?:** Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

**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.