Reviewer's report

Title: Apoptosis associated with Wnt / beta-catenin pathway leads to steroid-induced avascular necrosis of femoral head

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Reviewer: Daniele Noel

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The objective of the work performed by Zhang and coworkers is to evaluate apoptosis induced by steroid treatment in case of femoral head osteonecrosis. They propose the Wnt/b-catenin pathway as mediator of apoptosis in this model.

Major compulsory revisions

The major limit of the study is the absence of pure quantitative evaluation of apoptosis. Evaluating the number of apoptotic cells, empty lacunae on histological slides is not really quantitative. The quality of the labeling, and mainly the location of the section in the femur sample could influence the number of labeled cells and not be representative of the all tissue. Quantification of caspase activity is probably more relevant to determine the degree of early apoptosis.

Reduction of B-catenin and c-myc targeted gene as quantified by western blotting indicates a modulation of the canonical wnt pathway in the model. However, the expression of other genes targeted by the canonical pathway and involved in apoptosis should be evaluated such as the anti-apoptotic Bcl2 or Bcl-X factors.

Minor essential revisions

A proofreading of the manuscript by a native speaker is required.

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 have no competing interest