Reviewer’s report

Title: A new method for diagnosing adipocytic tumors by real-time polymerase chain reaction analysis of MDM2 and CDK4 expression using total RNA from core-needle biopsies.

Version: Date: 25 February 2014

Reviewer: Michael Arnold

Reviewer’s report:

Major Compulsory Revisions

The authors make a compelling case that quantitative RT-PCR using whole sections and core biopsies produced similar results. While the median levels of MDM2 and CDK4 are greater in ALT/WDL, the overlapping range of values for each tumor type is a limitation to the diagnostic usefulness of this test. The authors should address this limitation in the discussion. The authors should suggest a cut off value for considering quantitative levels of MDM2 and CDK4 to favor the diagnosis of lipoma or ALT/WDL, with corresponding predictive values. Displaying the data in the figures by plotting each individual sample as one point may better illustrate that most ALT/WDL show elevation in the median levels of MDM2 and CDK4.

The manuscript states that MDM2 and CDK4 expression levels in lipoma and ALT/WDL cases with a ring and/or giant chromosome were higher than those with normal karyotypes, but states P < 0.1 which would not typically be considered significant.

Minor Essential Revisions

The tables should be numbered consecutively as they appear in the text (currently 1,2,4,5,3).

The description of specimens in the methods could be made more explicit that the samples represent paired sections and core biopsies from the same tumor.

The manuscript would benefit from more precise P values than stating P < 0.05

Discretionary Revisions

A direct comparison of quantitative RT-PCR with immunohistochemistry to detect MDM2 or CDK4 amplification performed on these same tumors would be useful to identify the more reliable method.

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

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:
I declare that I have no competing interests.