Reviewer’s report

Title: MicroRNA/mRNA profiling and regulatory network of intracranial aneurysm

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Reviewer: Lars Maegdefessel

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Jiang et al investigate the expression of miRNAs in intracranial aneurysms compared to control tissue from medial meningeal arteries. The study elucidates an understudied vascular disease with devastating outcome (in case of acute ruptures).

Major Concerns

1) Overall the presented work is based on in silico analysis and thus very descriptive, lacking potential functional and mechanistic studies, which would allow a more rigorous exploration of miRNA regulation and its targeted gene and signaling pathways.

2) The authors should consider to use in vitro models of the affected cell types (e.g. arterial SMCs, ECs and ECM components like fibroblasts) to perform functional studies, in which they analyze what they believe is the most tempting miRNA. miR-29b for example has previously been identified as a crucial regulator of abdominal and thoracic aortic aneurysm disease. However, the 2 landmark papers in this area by Boon et al (Circ Res 2011) and Maegdefessel et al (J Clin Invest 2012) are not even referenced in the manuscript.

Minor concerns

1) Some of the references used in the current article seem are out of context and used incorrectly. For example, when talking about the aforementioned key role of miR-29 and its function in aneurysm disease (end of 2nd paragraph on the 2nd page of the Discussion section), the authors use only references (23, 27, 40-47) that talk about miRs-1, -133, 143, and -145 and 23/-24/-27.

2) Figure 1 and Table 1 seem to display the same information. Thus, Table 1 should be removed.

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.