Reviewer's report

Title: Exome sequencing identifies a mutation in the ACTN2 gene in a family with idiopathic ventricular fibrillation, left ventricular noncompaction, and sudden death

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Reviewer: michael gollob

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The authors report the use of WES to identify a rare variant in the ACTN2 gene in a family they view as showing significant clinical heterogeneity.

Major comments:
1. It is debatable whether or not the family shows the degree of heterogeneity suggested by the authors. Indeed, the presence of LVNC and DCM in this kindred would have swayed many to proceed with targeted testing of a DCM panel, which would have identified the ACTN2 mutation.

As the authors know, there is considerable overlap in the cardiomyopathies (LVNC/DCM/HCM) and the causative genes.

2. The individual considered as "IVF" is not well described. It is quite possible this individual is along the spectrum of DCM, with LVNC with preserved LV function. MRI images of this patient showing completely normal LV structure would be helpful.

Level of interest: An article of limited interest

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