Reviewer's report

Title: High-resolution SNP array analysis of patients with developmental disorder and normal array CGH results

Version: 4 Date: 3 April 2012

Reviewer: Jan Friedman

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Major Issues

Siggberg and her associates have revised their paper describing a chromosomal microarray analysis using Affymetrix 6.0 SNP chips in 35 patients with idiopathic developmental disorders who had normal oligonucleotide array-CGH. The revision addresses most of my previous concerns in a satisfactory manner, but I am still concerned that the authors fail to recognize the limitations imposed by the small size of their study and consequently overinterpret their results. For example, the last two sentences of the abstract state, "Our results suggest that the yield is not significantly increased by use of ultra-high resolution in studying developmental disorders of unknown cause. In this patient cohort the best outcome was obtained using a 244K array platform." This study has insufficient statistical power to detect a difference of 6% (found by Bernardini et al., 2010) and no data are presented that show that the 244K array platform is better than either of the other oligo array platforms or the SNP array. In addition, the authors should acknowledge that several recent papers have found pathogenic CNVs that involve only one or a few exons of a disease gene; CNVs this small would often be below the resolution of Affy 6.0 chromosomal microarray analysis and are certainly below the resolution of the oligonucleotide arrays used.

Minor Issue

Under Materials and Methods: Filtering relevant CNVs and potential UPDs, fifth line, do the authors mean "&gt;=100 Kb" instead of "&lt;= 100Kb", as stated?

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.

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