Reviewer’s report

Title: Bilateral radial agenesis with absent thumbs, complex heart defect, short stature, and facial dysmorphism in a patient with pure distal microduplication of 5q35.2-5q35.3

Version: 3  Date: 15 October 2012

Reviewer: Sarah Zimmerman

Reviewer’s report:

This manuscript reports on a patient with clinical features similar to reported individuals, but with additional findings that have not previously been identified. In addition, the patient that is being reported did not include the MSX2 gene which has been shown to be important during developmental. Therefore, the authors propose that there may be other genes or regulatory elements that may also be playing a role in the phenotype of individuals with a duplication involving distal 5q. I recommend acceptance of the manuscript, pending inclusion of the following information.

Compulsory revisions:

1) This study was based on laboratory findings including aCGH, karyotype and FISH analysis; however, none of this data was shown. To strengthen the paper, the authors should add a figure that includes all of the above results. Also, was the karyotype really normal for this patient? It was stated that FISH was performed on the abnormal chromosome 5, so was it actually abnormal and just not detectable by chromosome analysis? The figure would help to clarify this.

2) Absent thumbs was previously reported as a clinical feature in a patient with increased copies of distal 5q, so why are having additional clinical findings such as bilateral radial aplasia important when on average you see this in approximately 1/30,000 live births without 5q duplications?

Minor Essential Revision:

1) A good deal of the numbers listed are showing with a comma between, eg) 7,8 kg instead of 7.8 kg and 9,5 years.

2) In the methods section, there is little to no information on the additional participants that were used for sequencing and MLPA. In the discussion section the authors mention that 8 patients were studied with bilateral radial agenesis, but no additional information was provided. Was chromosome analysis, aCGH, FISH studies normal for these patients? What were there ages, background?

3) There are some misspellings throughout the paper which should be corrected.

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.