Neonatal and neurodevelopmental outcome of children aged 3–10 years born following assisted oocyte activation

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Abstract Assisted oocyte activation (AOA) using a calcium ionophore has been used for more than a decade following intracytoplasmic sperm injection (ICSI) fertilization failure. However, since AOA does not mimic precisely the physiological fertilization process, concerns exist about its use in human assisted reproduction. This study assessed the neonatal and neurodevelopmental outcome of children aged ≥3 years who had been born following AOA in our centre. Twenty-one children participated in the study (81% response rate; mean age 63.6 ± 21.07 months). Neonatal data were collected via questionnaires. Neurodevelopmental outcome was tested using the Reynell Developmental Language Scales or Clinical Evaluation of Language Fundamentals, Wechsler Preschool and Primary Scale of Intelligence or Wechsler Intelligence Scale for Children, and the Movement Assessment Battery for Children III. Behaviour was scored by the Social Communication Questionnaire, the Child Behaviour Checklist and the Teachers Report Form. For all tests and questionnaires, the mean outcomes lay within the expected ranges. These are first data on the developmental outcome of AOA children. The high response rate and the robustness of the tests support the data, which are reassuring although still considered preliminary. Therefore, AOA should still be performed only in selected couples.

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