Human Fertilisation and Embryology Authority

Minutes of the Statutory Approvals Committee

Meeting held at Finsbury Tower, 103-105 Bunhill Row, London, EC1Y 8HF on
25 June 2015

Minutes – item 3

Centre 0044 (The Centre for Reproductive and Genetic Health) – PGD application for myoclonic epilepsy associated with ragged-red fibres (MERRF), OMIM #545000 (associated mutation, m.8344 A>G in the MTTK gene)

Members of the Committee	David Archard (Chair, lay) Rebekah Dundas (Deputy Chair, lay) Tony Rutherford (professional) Margaret Gilmore (lay)
Legal Adviser	Tom Rider, Fieldfisher
Specialist Attending	Dr Alan Fryer
Members of the Executive	Sam Hartley, Head of Governance and Licensing Trent Fisher, Secretary

Declarations of interest: members of the committee declared that they had no conflicts of interest in relation to this item.

The following papers were considered by the committee:

- executive summary
- PGD application form
- redacted peer review
- Genetic Alliance opinion

The committee also had before it:

- HFEA Protocol for the Conduct of Licence Committee Meetings and Hearings
- 8th edition of the HFEA Code of Practice
- Human Fertilisation and Embryology Act 1990 (as amended)
- HFEA decision trees

- guidance for members of Authority and committees on the handling of conflicts of interest approved by the Authority on 21 January 2009.
- guidance on periods for which new or renewed licences should be granted
- Standing Orders and Instrument of Delegation
- Indicative Sanctions Guidance
- HFEA Directions 0000 – 0012
- guide to licensing
- Compliance and Enforcement Policy
- Policy on Publication of Authority and Committee Papers

Discussion

1. The committee had regard to its decision tree. The committee noted that the centre is licensed to carry out PGD. The committee was also satisfied that the centre has experience of carrying out PGD and that generic patient information about its PGD programme and associated consent forms had previously been received by the HFEA.

2. The committee noted that the condition being applied for is not on the approved PGD condition list.

3. The committee noted that the proposed purpose of testing the embryos was as set out in paragraph 1ZA(1)(b) of schedule 2 of the Act, i.e. 'where there is a particular risk that the embryo may have any gene, chromosome or mitochondrion abnormality, establishing whether it has that abnormality or any other gene, chromosome or mitochondrion abnormality'.

4. The committee noted that MERRF OMIM #545000 is inherited via the maternal line; therefore, all offspring of females with this mitochondrial DNA pathogenic variant are at risk of inheriting the pathogenic variant. The risk of inheriting the abnormality is high although the proportion of mutation carrying mitochondria is unpredictable.

5. The committee noted that the condition is a multisystemic disorder characterised by myoclonic epilepsy, which is a seizure disorder associated with involuntary muscle jerks. This condition can be fatal.

6. The committee noted that other symptoms that may develop are generalised epilepsy, muscle weakness, hearing loss, dementia, growth of benign tumours, damage to nerves, deterioration of the heart muscles ability to contract and impairment of breathing.

7. The committee noted that ataxia is also associated with this condition causing a lack of voluntary muscle coordination, which can affect balance, gait, speech, and tasks that require a degree of physical control such as eating and writing.

8. The committee noted that the penetrance of the condition depends upon the proportion of mutant mitochondria in any tissue.

9. The committee noted that there is no curative treatment for the condition and the only treatment options available are those to manage some of the symptoms that arise from the condition.

10. The committee noted that the application is consistent with the Peer Review.

11. The committee welcomed the advice of its Advisor, Dr Alan Fryer, who confirmed that the condition is as described in the papers. Dr Fryer gave the committee a detailed description of the mode of inheritance for the condition adding that the condition is so variable that the load of mutant mitochondrial DNA can vary from cell to cell within an individual.

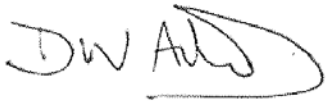
12. The committee considered that the condition is serious due to the severe unpredictability and variability of the condition and the constellation of serious symptoms that may present.

13. The committee had regard to its explanatory note and noted that on the basis of the information presented, given the condition's worst symptoms, it was satisfied that there is a significant risk that a person with the abnormality will have or develop a serious physical or mental disability, a serious illness or any other serious medical condition. The committee was therefore satisfied that the condition meets the criteria for testing under paragraph 1ZA(1)(b) and (2) of Schedule 2 to the Act.

14. The committee agreed to authorise the testing of embryos for myoclonic epilepsy associated with ragged-red fibres, OMIM #545000 (associated mutation, m.8344 a>g in the MTTK gene).

15. The committee took the opportunity to remind centres of the importance of careful counselling of patients when considering PGD and careful explanation of risks and possible outcomes for each individual case.

Signed: Date: 9 July 2015



David Archard(Chair)