HFEA Licence Committee Meeting

19 July 2012

Finsbury Tower, 103-105 Bunhill Row, London, EC1Y 8HF

Minutes – Item 2

Centre 0044 (Newcastle Fertility Centre at Life) – PGD for Charcot Marie Tooth Disease, demyelinating, type 1A (CMT1A) (OMIM #118220)

Members of the Committee: David Archard (lay) Chair Anna Carragher (lay) Sue Price (professional) Debbie Barber (professional) Rebekah Dundas (lay) - VC	Committee Secretary: Lauren Crawford Legal Adviser: Juliet Oliver, Field Fisher Waterhouse

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

Papers Enclosed for consideration:

- Executive Summary
- PGD Application Form
- Redacted Peer Review
- Genetic Alliance Opinion
- LC minutes from previous application (not approved) - 31 March 2011
- LC minutes for current application (adjourned) - 28 June 2012
- Additional information provided by the centre (to be tabled)
  - Letter from the University College London Hospitals (UCLH) NHS Foundation Trust
  - Birouk et al., 1997

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)
- Decision trees for granting and renewing licences and considering requests to vary a licence (including the PGD decision tree); and

- 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
- HFEA Pre-Implantation Diagnostic Testing ("PGD") Explanatory Note For Licence Committee

Background

1. An initial application for Charcot Marie Tooth Disease, demyelinating, type 1A (CMT1A) was considered by the Licence Committee in March 2011. The Committee did not approve the condition.

2. An application for this condition was then received, from centre 0044, and considered on the 28 June 2012. That application was adjourned as the Committee requested additional information to support the application.

3. The Committee sought further clarification as to:

    - Age of onset and whether the disease progresses with age
    - The predictability of the disease
    - The nature of the condition at its most severe end
    - The effects on quality of life

4. The Committee noted that the Centre provided additional information by letter of 18 July 2012, addressing the request from the Committee. The Committee found the additional information to be helpful and clear, and satisfactorily to address the areas in which clarification was sought.

Decision

5. 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.

1. The Committee noted that the Centre's proposed purpose of testing the embryos was as set out in paragraph 1ZA(1)(b) of schedule 2 of the Act, ie. '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'.

2. The Committee noted Charcot Marie Tooth Disease, demyelinating, type 1A (CMT1A) (OMIM #118220) is a disorder that is inherited in an autosomal dominant manner. There is a 1 in 2 chance of an embryo being affected by this condition where a parent is affected.

3. The Committee noted CMT1A is caused by duplication of, or a mutation in, the gene encoding peripheral myelin protein- 22. It is the most common form of CMT. It is a fully-penetrant condition, so the mutation will result in the manifestation of the disorder.

4. The Committee noted from the additional information provided by the centre that CMT1A does progress with age and there is currently no curative or preventative treatment. The onset is usually in late childhood or teenage years. The predominant early problems include muscle weakness and wasting in the lower limbs, functional hand and foot problems related to weakness and loss of sensation and deformities, particularly of the feet. Early age at onset has been shown to be associated with a more severe disease, course however regardless of age at onset, CMT type 1A is a clinically progressive disorder. As CMT1A is inherited in an autosomal dominant pattern, one member of a couple requesting preimplantation genetic diagnostic diagnosis to avoid the birth of a child with CMT1A has the condition. They are living with the condition and may have seen one of their parents live with the condition.

5. The Committee noted that previously surgery was frequently used, but now management is predominantly with orthotics and physiotherapy, as well as occupational therapy aids as hand and foot weakness increases and ability deteriorates. Walking aids are often required as the disease progresses. Some patients have spinal problems (scoliosis), tremor and bladder dysfunction with advancing disease. Pain and chronic fatigue can also occur, and patients may require long term pain management.

6. The Committee noted that at its most severe, CMT type 1A causes extreme foot/hand deformity and difficulty with use, leading to greatly impaired mobility and very limited independence, respiratory problems due to diaphragm weakness and/or severe spinal curvature and bladder

problems. This very severe form of the disease is rare but nonetheless can occur.

7. The Committee noted that the condition is also serious because CMT1A can sometimes affect the nerve controlling the diaphragm. This can lead to breathing problems at night which can require respirators. The disease severity can vary between and within families with the identical CMT1A genetic defect and it is therefore difficult to predict the severity of disease. The impacts of CMT1A on a patient's life are many; they are constant and ever increasing. Progressive, reduced mobility and limb function are the main problems, and the effects on quality of life vary from individual to individual. Some patients find their increasing level of disability and the impact that this has on their daily lives extremely distressing and difficult to manage. At school, affected children and young people often find that they are unable to participate in normal activities.

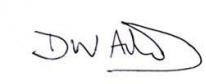
8. The Committee noted that the application is supported by the Peer Reviewer and the Genetic Alliance UK.

9. The Committee 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. Accordingly, it was appropriate to grant the application under paragraph 1ZA(1)(b) of Schedule 2 to the Act.

10. The Committee noted that the application is supported by the Peer Reviewer and Genetic Alliance UK.

11. The Committee agreed to authorise the testing of embryos for Charcot Marie Tooth Disease, demyelinating, type 1A (CMT1A) (OMIM #118220). The Committee confirmed that this condition will be added to the published list of conditions for which PGD may be carried out.

Signed: Date: 30/07/2012



David Archard (Chair)