Statutory Approvals Committee - minutes

Centre 0101 (CARE Nottingham)

Preimplantation Genetic Diagnosis (PGD) application for Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839

Date:	28 January 2021
Venue:	HFEA, 2nd Floor, 2 Redman Place, London E20 1JQ via Teams Meeting
Committee Members	Margaret Gilmore (Chair) Emma Cave Anne Lampe Ruth Wilde
Specialist Adviser	Peter Turnpenny
Legal Adviser	Eve Piffaretti - Blake Morgan LLP
Members of the Executive	Moya Berry - Committee officer Catherine Burwood - Licensing Manager
Apologies:	• No apologies were received for the meeting
Declarations of Interest:	• Members of the committee declared that they had no conflicts of interest in relation to this item.

The Committee had before it:

- 9th edition
- Standard Licencing and Approvals Pack

The following papers were considered by the committee:

- Executive Summary
- PGD Application form
- Redacted Peer review
- 2018-11-22 Statutory Approvals Committee minutes, PGD for Thiamine-responsive Megaloblastic Anaemia, OMIM #249270

1. Consideration of application

1.1. The committee welcomed the advice of its specialist adviser, Professor Peter Turnpenny, who confirmed that the condition was as described in the papers.

1.2. The committee noted that the description in the PGD application for Megablastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839 is consistent with the peer review.

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

1.4. The committee noted that the condition Megablastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839.is also known as Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839. As the OMIM website entry lists Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839 as the primary name of the condition, the condition, for the purposes of this application, will be known as Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839.

1.5. The committee noted that a Genetic Alliance (UK) statement had not been provided for this application.

1.6. 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.

1.7. 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'.

1.8. The committee noted that Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839, is inherited in an autosomal recessive manner, which means there is a 25% chance of an embryo being affected by the condition in each pregnancy if each parent has a relevant mutation.

1.9. The committee noted that the penetrance of the condition is 100%.

1.10. Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839 is characterised by generalised seizures in infancy, childhood absence epilepsy, learning difficulties, and severe developmental delay. In some cases, the seizures caused by the epilepsy are intractable and death in infancy has been reported.

1.11. There is no cure for this condition, but certain medications can ameliorate the symptoms. However, despite early treatment, there is still profound developmental delay in some of those affected.

1.12. The committee noted the executive's request to consider Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839, for inclusion on the list of conditions approved for PGD. The committee agreed to consider the application on this basis.

2. Decision

2.1. The committee considered that, in the worst-case scenario, Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839, is a serious and potentially lethal condition which can present in the first few months of life. Those affected can suffer from severe developmental delay and generalized seizures which can be difficult to treat. There is no cure for the condition and the committee considered the potentially devastating physical and psychological impact on the quality of life of those affected with the condition

2.2. The committee had regard to its explanatory note and confirmed that, on the basis of the information presented, it was satisfied that there is a particular risk that an embryo may have the abnormality in question and that there is a significant risk that a person with such an abnormality will, given the condition's worst symptoms, have or develop a serious physical disability, a serious illness, or any other serious medical condition.

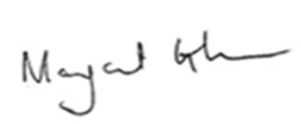
2.3. The committee was therefore satisfied that the following condition meets the criteria for testing under paragraph 1ZA(1)(b) and (2) of Schedule 2 of the Act. The committee agreed to authorise testing for:

- Megaloblastic Anemia due to Dihydrofolate Reductase Deficiency (DHFR), OMIM #613839

3. Chair's signature

3.1. I confirm this is a true and accurate record of the meeting,

Signature



Name

Margaret Gilmore

Date

23 February 2021