Statutory Approvals Committee - minutes

Centre 0101 (CARE Nottingham)

Preimplantation Genetic Diagnosis (PGD) application for Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204

Date:	29 April 2021
Venue:	Microsoft Teams Meeting
Committee Members:	Margaret Gilmore (Chair) Emma Cave Anne Lampe Ruth Wilde Jason Kasraie
Specialist Adviser:	Jenny Carmichael
Members of the Executive:	Moya Berry - Committee officer Catherine Burwood - Licensing Manager
Observers:	Julia Chain - HFEA Chair (Induction) Tim Child - HFEA Authority Member (Induction) Neil Ward - Mills & Reeve LLP (New Legal Adviser) (Induction)
Apologies:	No apologies were received for the meeting
Declarations of Interest:	Darryn Hale, DAC Beachcroft LLP, the legal adviser declared a conflict of interest and was not present at the meeting for this item. No Members declared that they had any conflicts of interest in relation to this item.

The Committee had before it:

- HFEA Code of Practice 9th edition
- Standard Licensing and Approvals Pack

The following papers were considered by the committee:

- Executive Summary
- PGD Application form
- Redacted Peer review
- 2013-02-21 Licence Committee Minutes, PGD for Multiple Epiphyseal Dysplasia 5, OMIM #607078

1. Consideration of application

1.1. The committee welcomed the advice of its specialist adviser, Dr Jenny Carmichael, who confirmed that the condition was as described in the papers.

1.2. The committee noted that the description in the PGD application for Epiphyseal Dysplasia, Multiple, 2 (EDM2) OMIM #600204, 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 a Genetic Alliance (UK) statement had not been provided for this application.

1.5. 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.

1.6. 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'.

1.7. The committee noted that Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204, is inherited in an autosomal dominant manner, which means there is a 50% chance of an embryo being affected by the condition in each pregnancy if either parent has a relevant mutation.

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

1.9. Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204, is a genetic skeletal disorder of cartilage and bone development primarily affecting the ends of the long bones in the arms and legs, causing pain and stiffness in the joints from early childhood onwards. Those affected can fatigue easily during exercise. Affected individuals usually experience early onset arthritis that can develop into chronic joint pain (arthralgia) and can restrict mobility from an early age. Multiple joints may be affected, particularly in adolescents and joint pain is usually worse after physical exercise. In adulthood, osteoarthritis progresses, and some develop problems in their finger and elbow joints, as well as more severe knee abnormalities.

1.10. There is no cure for Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204, and treatments are directed towards the relief of symptoms.

1.11. The committee noted the executive's request to consider Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204, for inclusion on the list of conditions approved for PGD. The committee agreed to consider the application on this basis.

1.12. The committee also noted the recommendation of the peer reviewer to consider a number of additional conditions for inclusion on the list for which PGD can be applied and agreed to consider the application on this basis. The conditions are: Epiphyseal Dysplasia, Multiple, 1 (EDM1), OMIM #132400, Epiphyseal Dysplasia, Multiple, 3 (EDM3), OMIM #600969, Epiphyseal Dysplasia, Multiple, 4 (EDM4), OMIM #226900, Epiphyseal Dysplasia, Multiple, 6 (EDM6), OMIM #614135 and Epiphyseal Dysplasia, Multiple, 7 (EDM7), OMIM #617719.

1.13. All conditions show similar clinical features to Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204, including stiffness and pain in the joints from childhood onwards, early fatigue during exercise, early onset arthritis with chronic joint pain and restricted mobility from an early age. Multiple joints may be affected, particularly in adolescents and joint pain is usually worse after physical exercise. In adulthood, osteoarthritis progresses and those affected may require multiple painful surgeries.

1.14. The conditions Epiphyseal Dysplasia, Multiple, 1, EDM1, OMIM #132400, Epiphyseal Dysplasia, Multiple, 3 (EDM3), OMIM #600969, and Epiphyseal Dysplasia, Multiple, 6 (EDM6), OMIM #614135, are all inherited in an autosomal dominant manner, meaning the risk of inheriting these conditions is 50% in each pregnancy if either parent carries a relevant mutation. Epiphyseal Dysplasia, Multiple, 4 (EDM4), OMIM #226900 and Epiphyseal Dysplasia, Multiple, 7 (EDM7), OMIM #617719, are both inherited in an autosomal recessive manner meaning the risk of inheriting these condition types is 25% in each pregnancy if each parent carries a relevant mutation.

2. Decision

2.1. The committee considered that, in the worst-case scenario, Epiphyseal Dysplasia, Multiple, 2; EDM2, OMIM #600204, is an early degenerative joint disease that presents from early childhood onwards. The condition is associated with severe joint deformities that require repeated multiple joint surgeries that can result in chronic lifelong pain that may be difficult to treat. The committee considered the potential serious physical and psychological impact on the quality of life of those affected by the condition.

2.2. The committee also considered that Epiphyseal Dysplasia, Multiple, 1, EDM1, OMIM #132400; Epiphyseal Dysplasia, Multiple, 3, EDM3, OMIM #600969; Epiphyseal Dysplasia, Multiple, 4, EDM4, OMIM #226900; Epiphyseal Dysplasia, Multiple, 6, EDM6, OMIM #614135; and Epiphyseal Dysplasia, Multiple, 7, EDM7, OMIM #617719, in the worst-case scenario are conditions that present from an early age with joint deformities leading to lifelong chronic joint pain, multiple surgeries, and restricted mobility.

2.3. 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 conditions' worst symptoms, have or develop a serious physical disability, a serious illness, or any other serious medical condition.

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

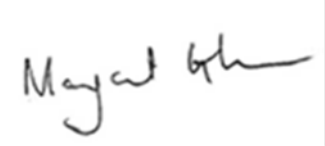
- Epiphyseal Dysplasia, Multiple, 1 (EDM1), OMIM #132400
- Epiphyseal Dysplasia, Multiple, 2 (EDM2), OMIM #600204

- Epiphyseal Dysplasia, Multiple, 3 (EDM3), OMIM #600969
- Epiphyseal Dysplasia, Multiple, 4 (EDM4), OMIM #226900
- Epiphyseal Dysplasia, Multiple, 6 (EDM6), OMIM #614135
- Epiphyseal Dysplasia, Multiple, 7 (EDM7), OMIM #617719

3. Chair's signature

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

Signature



Name

Margaret Gilmore

Date

1 June 2021