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Debate Pack

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E-petition on research into Fibrodysplasia Ossificans Progressiva

1 Background

An e-petition (564582) on "dedicate funding for research into Fibrodysplasia Ossificans Progressiva (FOP)" calls on the Government to "invest in FOP research to support this ultra-rare disease community". It adds that research into FOP could also "inform the understanding/treatment of many more common conditions such as osteoporosis, hip replacements, DIPG (a rare childhood brain cancer) and many common military injuries". At the time of writing, the e-petition had received over 111,000 signatures and is scheduled to close on 7 January 2022. The petition was created by Chris Bedford-Gay, a trustee of the UK charity 'FOP Friends'.

The Government published a response to the e-petition in October 2021, emphasising that, through the National Institute for Health Research (NIHR) it had "supported one study into FOP via NIHR Infrastructure and seven studies via NIHR Clinical Research Networks".

The e-petition will be debated in Westminster Hall on Monday 6 December 2021 and will be led by Elliot Colburn MP on behalf of the Petitions Committee.

2 Fibrodysplasia Ossificans Progressiva (FOP)

Overview

FOP is a rare, genetic condition whereby soft connective tissues in the body, such as tendons and ligaments, are gradually replaced by new bone (they are 'ossified'). It is caused by a fault (mutation) in the ACVR1 gene.[1] The condition means that bone develops outside of the skeleton. If this occurs near joints, it can restrict the person's movement and over time, will cause a progressive loss of mobility. The Genetic and Rare Disease Information Center in the United States reports that the process generally becomes "noticeable in early childhood, starting with the neck and shoulders and proceeding down the body and into the limbs".[2] Fusion of the affected joints may also occur.[3]

New bone growth can severely affect quality of life; the charity 'FOP Friends' notes that "bone growth in the muscles of the face and mouth can 'lock' a person's jaw, making eating, talking and dental care extremely difficult".[4] The Genetic and Rare Disease Information Center also highlights that patients may develop "breathing difficulties as a result of extra bone formation around the rib cage that restricts expansion of the lungs".[5] FOP, however, is a variable and progressive illness, meaning that it will affect people in different ways and at different points in their life.

At present there is no known cure for FOP and no definitive treatment, though clinical trials are underway. The National Institute for Health and Care Excellence (NICE), for example, is in the process of developing 'highly specialised technologies guidance' (which make recommendations on the use of new and existing highly specialised medicines and treatments within the NHS in England) on palovarotene (a drug) for preventing heterotopic ossification associated with FOP.[6] This type of guidance is typically prepared shortly in advance of the medicine receiving a marketing authorisation (sometimes referred to as a licence – meaning the medicine can be administered in patients), with the aim of ensuring patients can access the

1 Genetic and Rare Disease Information Center (US), Fibrodysplasia Ossificans Progressiva, 5 June 2014
2 Genetic and Rare Disease Information Center (US), Fibrodysplasia Ossificans Progressiva, 5 June 2014
3 National Organization for Rare Disorders, Fibrodysplasia Ossificans Progressiva, not dated
4 FOP Friends, What is FOP?, not dated
5 Genetic and Rare Disease Information Center (US), Fibrodysplasia Ossificans Progressiva, 5 June 2014
6 The National Institute for Health and Care Excellence (NICE) provides national guidance and advice to improve health and social care. NICE is an executive non-departmental public body, sponsored by the Department of Health and Social Care. For more information about palovarotene see Ipsen announces withdrawal of palovarotene NDA, confirming intention to re-submit following additional data analyses - Ipsen, 13 August 2021.

drug in a timely manner. At present the development of the NICE highly specialised technologies guidance for palovarotene has been paused, on the grounds that the "appraisal has not been defined as therapeutically critical".[7] NICE also states that its schedule for assessing palovarotene has been "affected by Covid-19".[8]

The average life expectancy for those with FOP is 40 years, though the charity Muscular Dystrophy UK notes that there are several people in the UK with FOP who are aged over 60.[9] FOP Friends estimates that the condition affects around 1 in every 2 million people, with approximately 80 people known to have FOP in the UK.[10] The National Organization for Rare Disorders in the United States estimates there are 900 FOP patients worldwide.[11]

Symptoms

People with FOP are generally born with malformed big toes that are turned in. Those affected may also have short thumbs; the National Organization for Rare Disorders estimates that this sign is present in 50% of cases. Other symptoms include "unexpected swellings across the body".[12]

Swelling and inflammation (also referred to as 'flare-ups') may occur spontaneously, or may be triggered by "traumatic episodes", such as a fall, a medical procedure (including vaccination and surgery) as well as viruses like flu.[13] Once the flare-up has subsided, which may take days, weeks or months, new bone growth may have occurred in the affected area. The variable nature of the condition means that some people can go for long periods without a flare-up, while others may have frequent / prolonged flare-ups.

7 NICE, Palovarotene for preventing heterotopic ossification associated with FOP, last updated 13 May 2020

8 ibid

9 How Oxford is working to cure a devastating rare disease, University of Oxford News, 16 March 2015; Muscular Dystrophy UK, Overview: Fibrodysplasia Ossificans Progressiva (FOP), not dated

10 FOP Friends, What is FOP?, not dated (accessed 29 November 2021)

11 National Organization for Rare Disorders, Fibrodysplasia Ossificans Progressiva, not dated

12 FOP Friends, FOP Fibrodysplasia ossificans progressiva: the essential facts, October 2019

13 National Organization for Rare Disorders, Fibrodysplasia Ossificans Progressiva, not dated

3 Research funding for FOP

There are very few institutions across the world conducting research into FOP. In the UK, the University of Oxford is undertaking work into how to slow the symptoms of FOP and find a cure.[14] Research is also being undertaken at the University of Pennsylvania in the United States.[15] An answer to a Parliamentary Question in October 2021 indicated that the Department of Health and Social Care had provided "funding to support eight studies into FOP through the NIHR [National Institute for Health Research]".[16] Further detail is provided in the Government Response to the e-petition:

> NIHR is the nation's largest funder of health and care research, spending £1 billion from DHSC on research every year. In the past five years, the Institute has supported one study into FOP via NIHR Infrastructure and seven studies via NIHR Clinical Research Networks. Bringing together the seven disciplinary research councils, including the Medical Research Council (MRC), UKRI convenes, catalyses, and invests in close collaboration with others to build a thriving, inclusive research and innovation system.
>
> Since 2010, MRC have contributed funding towards three projects of underpinning relevance to FOP and the biological processes that contribute towards the condition, totalling over £6.6 million. More broadly, UKRI holds a diverse and dynamic portfolio of research directed towards musculoskeletal health and disease more generally. Findings from this broader pool of projects could stimulate future activity and discovery in FOP research.[17]

14 University of Oxford Development Office, Giving to the FOP Research Fund, not dated

15 National Organization for Rare Disorders, Fibrodysplasia Ossificans Progressiva, not dated

16 PQ HL3515 [on Fibrodysplasia Ossificans Progressiva: Research], 28 October 2021

17 e-petition 590405, Dedicate funding for research into Fibrodysplasia Ossificans Progressiva (FOP), closes 7 January 2022

4 Government policy – UK Rare Disease Framework

The UK Rare Diseases Framework was published in January 2021 and outlined a vision for improving the lives of those with rare diseases, such as FOP. In the framework, four key priorities are identified:

- Priority 1: helping patients get a final diagnosis faster
- Priority 2: increasing awareness of rare diseases among healthcare professionals
- Priority 3: better coordination of care
- Priority 4: improving access to specialist care, treatments and drugs

To support the priorities, five underpinning themes have also been identified:

- patient voice;
- national and international collaboration;
- digital, data, and technology;
- wider policy alignment; and
- pioneering research[18]

Action Plans, aimed at addressing each of the four priorities, are due to be developed by all four UK nations and published in 2021. These will be "nation-specific action plans that will detail the steps each government will take to meet the shared priorities of the Framework".[19] The Government Response to the e-petition notes that the Medical Research Council's (MRC) Population and Systems Medicine Board supports the UK Rare Diseases Framework by encouraging the scientific community to come forward with their "best ideas aimed at addressing research questions related to rare diseases", across the spectrum of disease areas that MRC funds.[20]

18 Department of Health and Social Care, The UK Rare Diseases Framework, 9 January 2021

19 PQ 123605 [on Rare Diseases], 9 December 2021

20 E-petition 564582 on "dedicate funding for research into Fibrodysplasia Ossificans Progressiva (FOP)", closes 7 January 2022

5 Parliamentary material

5.1 PQs

Fibrodysplasia Ossificans Progressiva: Screening

Asked by: Penning, Sir Mike

To ask the Secretary of State for Health and Social Care, what steps he is taking to improve new-born screening and genetic testing for fibrodysplasia ossificans progressiva.

Answering member: Maria Caulfield | Department: Department of Health and Social Care

There is no newborn screening programme for fibrodysplasia ossificans progressiva (FOP) using genetic testing and it is not currently being considered for a national screening programme. National population screening programmes are implemented on the advice of the United Kingdom National Screening Committee (UK NSC), which makes independent, evidence-based recommendations to Ministers in the four UK nations. Proposals to screen for new conditions, such as FOP, can be submitted to the UK NSC via its annual call for new topics, which closes on 6 December 2021.

HC Deb 15 Nov 2021 | PQ 58778

Fibrodysplasia Ossificans Progressiva: Carers

Asked by: **Lord Caine**

To ask Her Majesty's Government what support they are giving to families who are caring for family members suffering from fibrodysplasia ossificans progressiva.

Answering member: **Lord Kamall | Department: Department of Health and Social Care**

For patients with rare diseases such as fibrodysplasia ossificans progressiva, expert centres provide clinical guidance, support and advice to patients, their families and carers. The NHS Long Term Plan set out ambitions to improve the identification and support of unpaid carers. These ambitions include providing timely information and support for contingency planning; developing more integrated support systems within primary care; support for young carers; and work to ensure that carers from frequently excluded communities are engaged and enabled to use services.

HL Deb 11 Nov 2021 | PQ 3516

Fibrodysplasia Ossificans Progressiva: Research

Asked by: **Lord Caine**

To ask Her Majesty's Government what plans they have, if any, to increase research funding in order to find more effective treatments and a cure for fibrodysplasia ossificans progressiva.

Answering member: Lord Kamall | Department: Department of Health and Social Care

The Department funds research into rare diseases such as fibrodysplasia ossificans progressiva (FOP) via the National Institute for Health Research (NIHR). In the past five years, the Department has provided funding to support eight studies into FOP through the NIHR. Within the NIHR, for all disease areas, the amount of funding depends on the volume and quality of scientific activity and the usual practice is not to ring-fence funds for particular topics.

The UK Rare Diseases Framework, published in January 2021, outlined a vision for improving the lives of those with rare diseases, such as FOP, including a focus on pioneering research. Action plans setting out further details on this research will be published by each of the four United Kingdom nations within two years. A copy of the Framework is attached.

HL Deb 11 Nov 2021 | PQ 3515

Fibrodysplasia Ossificans Progressiva: Health Services

Asked by: **Lord Caine**

To ask Her Majesty's Government what plans they have, if any, to expand the provision of specialist NHS care and treatment for people suffering from fibrodysplasia ossificans progressiva.

To ask Her Majesty's Government what specialist care and treatments are currently available through the NHS for people suffering from fibrodysplasia ossificans progressiva.

Answering member: **Lord Kamall | Department: Department of Health and Social Care**

There is no specific prescribed service for treatment of fibrodysplasia ossificans progressiva (FOP). However, children with FOP are cared for by National Health Service paediatric rheumatologists and/or geneticists with input from other clinicians as required.

New medicines and treatments for ultra-rare diseases such as FOP are considered via highly specialised technology (HST) evaluations by the National Institute for Health and Care Excellence (NICE). NICE is currently

developing HST guidance on palovarotene for preventing heterotopic ossification associated with FOP.

The UK Rare Diseases Framework, published in 2021, outlined four key priorities to improve the lives of those living with rare diseases, such as FOP, including improving access to specialist care, treatment and drugs. Action plans to improve access to care and treatment will be published by each of the four United Kingdom nations within two years. A copy of the Framework is attached.

HL Deb 11 Nov 2021 | PQs 3514; 3513

Fibrodysplasia Ossificans Progressiva: Drugs

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, pursuant to the Answers of 22 October 2021 to Questions 56489 and 56878, on Fibrodysplasia Ossificans Progressiva: Health Services, what the status is of the highly specialised technologies guidance on Palovarotene for preventing heterotopic ossification associated with fibrodysplasia ossificans progressiva.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The National Institute for Health and Care Excellence is in the early stages of developing highly specialised technologies guidance on palovarotene and is in discussion with the manufacturer regarding timings for this appraisal. The publication date for guidance is to be confirmed.

HC Deb 05 Nov 2021 | PQ 66175

Rare Diseases: Health Services

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, if he will allocate a clinical care team for each person with (a) fibrodysplasia ossificans progressiva and (b) an ultra-rare disease.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The United Kingdom Rare Diseases Framework, published in 2021, outlining the priorities to improve the lives of those living with rare diseases such as Fibrodysplasia ossificans progressiva, including better coordination of care. Further details on how the Framework will address the coordination of care for patients with rare and ultra-rare diseases will be provided in action plans, which will be published by each of the four UK nations within two years. The

Department is working with delivery partners, including NHS England and NHS Improvement, to develop an action plan for England.

HC Deb 27 Oct 2021 | PQ 58784

Fibrodysplasia Ossificans Progressiva: Research

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, what steps he is taking to improve innovative research into (a) slowing the symptoms of, and (b) finding a cure for fibrodysplasia ossificans progressiva.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

We published the United Kingdom Rare Diseases Framework in January 2021, outlining a national vision for improving the lives of those living with rare diseases, such as Fibrodysplasia ossificans progressiva (FOP). Due to the small numbers of patients with individual rare diseases, international collaboration is essential to support research and patient care, particularly for very rare diseases. Further details regarding rare diseases research and international collaboration under the Framework will be provided in action plans which will be published by each of the four UK nations within two years.

HC Deb 26 Oct 2021 | PQ 58785

Global FOP Awareness Day

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, what steps he is taking to support International fibrodysplasia ossificans progressiva (FOP) Awareness Day on 23 April; and if he will make a statement.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The Department has no specific plans for Fibrodysplasia Ossificans Progressiva (FOP) Awareness Day. However, we work closely with Genetic Alliance UK, of which FOP FRIENDS is a member and will participate in events around Rare Disease Day on 28 February 2022.

HC Deb 26 Oct 2021 | PQ 58782

Fibrodysplasia Ossificans Progressiva

Asked by: Penning, Sir Mike | Party: Conservative Party

To ask the Secretary of State for Health and Social Care, what steps he is taking to increase awareness of fibrodysplasia ossificans progressiva (FOP) among healthcare professionals (a) in general and (b) in relation to new-born screening.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The Government published the United Kingdom Rare Diseases Framework in January, to improve the lives of those living with rare diseases, such as Fibrodysplasia ossificans progressiva (FOP), including increasing awareness of rare diseases among healthcare professionals. This will be followed by action plans from each nation of the UK to implement the Framework. As part of the development of England's action plan, the Department is working with Health Education England and NHS England and NHS Improvement to raise awareness of rare diseases, through the development of integrated point of care resources for clinical staff and targeted education modules for trainee healthcare professionals, aligned to the NHS National Genomics Test Directory.

HC Deb 26 Oct 2021 | PQ 58777

Fibrodysplasia Ossificans Progressiva: Research

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, what level of funding his Department is providing for research into (a) slowing the symptoms of and (b) finding a cure for fibrodysplasia ossificans progressiva.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The Department funds research into rare diseases such as Fibrodysplasia ossificans progressiva (FOP) via the National Institute for Health Research (NIHR). In the past five years, the Department has provided funding to support eight studies into FOP through the NIHR. Within the NIHR, for all disease areas, the amount of funding depends on the volume and quality of scientific activity and the usual practice is not to ring-fence funds for expenditure on particular topics.

The United Kingdom Rare Diseases Framework, published in January 2021, outlined a vision for improving the lives of those living with rare diseases, such as FOP. Further details on research into rare diseases will be provided in action plans, which will be published by each of the four UK nations within two years.

HC Deb 22 Oct 2021 | PQ 58780

Fibrodysplasia Ossificans Progressiva: Health Services

Asked by: **Penning, Sir Mike**

To ask the Secretary of State for Health and Social Care, what steps he is taking to improve patient outcomes for people with fibrodysplasia ossificans progressiva.

To ask the Secretary of State for Health and Social Care, what practical support his Department provides to help improve the lives of people with fibrodysplasia ossificans progressiva.

To ask the Secretary of State for Health and Social Care, what (a) funding and (b) other support his Department provides to help improve the lives of people with fibrodysplasia ossificans progressiva.

Answering member: **Maria Caulfield | Department: Department of Health and Social Care**

The United Kingdom Rare Diseases Framework outlines key priorities to improve the lives of those living with rare diseases, such as Fibrodysplasia ossificans progressiva (FOP). These include faster diagnosis, increasing awareness of rare diseases among healthcare professionals, better coordination of care, improving access to specialist care, treatment and drugs and pioneering research. Each of the four UK nations will publish action plans outlining how these priorities will be addressed to improve patient outcomes within two years.

Children with FOP are cared for in the National Health Service by paediatric rheumatologists and/or geneticists with input from other clinicians as required. In the past five years, the Department has provided funding to support eight studies into FOP through the National Institute for Health Research. The National Institute for Health and Care Excellence is also developing highly specialised technologies guidance on 'Palovarotene for preventing heterotopic ossification associated with fibrodysplasia ossificans progressiva'.

HC Deb 22 Oct 2021 | PQs 56878; 56489; 56255

6 News items, press releases and further reading material

6.1 News items

Hemel today

Little Lexi's Big Christmas Raffle is raising money for charity - inspired by Hemel Hempstead baby girl with incurable condition

3 November 2021

The Independent

This woman is growing a second skeleton - and it's locking her inside her own body - The greatest strength against FOP disease is one woman's total determination

30 March 2017

The Independent

How 'human mannequin' disease teenager Louise Wedderburn is battling the odds to become a model

1 November 2012

6.2 Press releases

Ipsen

Ipsen announces withdrawal of palovarotene NDA, confirming intention to re-submit following additional data analyses

13 August 2021

MENAFN

Fibrodysplasia Ossificans Progressiva Market Analysis, Market Size, Epidemiology, Leading Companies And Competitive Analysis By DelveInsight

11 August 2021

Ipsen

Ipsen to present results from MOVE, the first global Phase III trial in fibrodysplasia ossificans progressiva (FOP), at ASBMR 2020 annual meeting

25 August 2020

6.3 Further reading

International Clinical Council on Fibrodysplasia Ossificans Progressiva

The medical management of Fibrodysplasia Ossificans Progressiva: current treatment considerations

August 2021

GOV.UK

UK Rare Diseases Framework

9 January 2021

Journal of Rare Diseases Research & Treatment

Epidemiology of the Global Fibrodysplasia Ossificans Progressiva (FOP) Community

28 September 2020

Frontiers in Endocrinology

When Limb Surgery Has Become the Only Life-Saving Therapy in FOP: A Case Report and Systematic Review of the Literature

21 August 2020

The Centre for research in FOP & related disorders

Annual Report of the Fibrodysplasia Ossificans Progressiva (FOP) Collaborative Research Project 2018-2019

British Journal of Clinical Pharmacology

Special considerations for clinical trials in fibrodysplasia ossificans progressiva (FOP)

3 October 2018

Focus on FOP: Raising awareness and recognition of Fibrodysplasia Ossificans Progressiva

UK Charity: FOP Friends

Muscular Dystrophy UK: Overview: Fibrodysplasia Ossificans Progressiva (FOP)

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