HOUSE OF COMMONS LIBRARY

DEBATE PACK

Number CDP 2019/0113, 8 May 2019

# Debate on Pre-eclampsia

By Sarah Barber
Manjit Gheera
Rachael Harker
Michael O'Donnell

## Contents



## Summary

A Backbench Business debate on pre-eclampsia is tabled in the Commons Chamber for Thursday 9th May. The debate is due to be led by Patricia Gibson MP.

The debate may focus on issues concerning prioritising care for women at a higher risk of dying from the complications of pre-eclampsia, and on recent developments in detecting the condition at an earlier stage of pregnancy.

An Action on Pre-eclampsia briefing prepared for this debate and for World Pre-Eclampsia Day on 22nd May provides further information about the condition.

# 1. Background

Pre-eclampsia is an illness occurring in pregnancy which can affect the mother and/or her unborn child. It usually occurs in the second half of pregnancy (from around 20 weeks) or several days post-delivery. Although the exact cause of pre-eclampsia is not fully understood, it is thought to be caused by the placenta - which joins the mother and baby and supplies the baby with nutrients and oxygen from the mother's blood - not developing properly due to a problem with the blood vessels supplying it. In the mother, the early signs of pre-eclampsia include:

- raised blood pressure (hypertension), and
- leakage of protein in the urine (proteinuria)

which can progress to serious illness if undetected.

The NHS website provides the following information on further symptoms:

> It's unlikely that you'll notice these [early] signs, but they should be picked up during your routine antenatal appointments.
>
> In some cases, further symptoms can develop, including:
>
> • swelling of the feet, ankles, face and hands caused by fluid retention (oedema)
>
> • severe headache
>
> • vision problems
>
> • pain just below the ribs.
>
> If you notice any symptoms of pre-eclampsia, seek medical advice immediately by calling your midwife, GP surgery or NHS 111.
>
> Although many cases are mild, the condition can lead to serious complications for both mother and baby if it's not monitored and treated.
>
> The earlier pre-eclampsia is diagnosed and monitored, the better the outlook for mother and baby.

Many cases of pre-eclampsia are mild. However, it can lead to serious complications for both the mother and baby. In the mother, complications can include eclampsia (fits) and HELLP syndrome (a liver and blood clotting disorder). If pre-eclampsia is severe, a baby may need to be delivered early, which can result in serious complications, such as breathing difficulties caused by the lungs not being fully developed (neonatal respiratory distress syndrome).

Some women are at a higher risk of developing pre-eclampsia. They are women with any of the following:

- hypertensive disease during a previous pregnancy
- chronic kidney disease
- autoimmune disease such as systemic lupus erythematosis or antiphospholipid syndrome
- type 1 or type 2 diabetes
- chronic hypertension.

Other factors indicating that a woman may be at a slightly higher risk of developing pre-eclampsia are:

- first pregnancy
- age 40 years or older
- a pregnancy interval of more than 10 years
- body mass index (BMI) of 35 kg/m2 or more at first visit
- a family history of pre-eclampsia
- multiple pregnancy.[1]

## 1.1 Diagnosis and treatment

In its early stages, pre-eclampsia is symptom-less and is only detectable by routine pregnancy checks. At each antenatal appointment a mother's blood pressure will be checked for signs of high blood pressure and a urine sample tested to see if it contains protein.[2] If pre-eclampsia is suspected, the mother is usually offered a blood test to rule out the condition. The blood test measures levels of a protein called placental growth factor (PIGF). Low levels of PIGF can be an indicator of pre-eclampsia.

Women diagnosed with pre-eclampsia should be referred to a specialist for further tests and more frequent monitoring. Severe cases may require hospital admission for monitoring and treatment to reduce blood pressure.

There is no cure for pre-eclampsia other than delivering the baby. In most cases of pre-eclampsia, delivering the baby between the 37th and 38th week of pregnancy is recommended to reduce the risk of complications from pre-eclampsia.[3]

[1] NICE clinical guideline Hypertension in pregnancy: diagnosis and management [CG107], updated January 2011
[2] NICE guideline Antenatal care, routine care for the healthy pregnant woman (2008)
[3] NHS UK, Pre-eclampsia.

## 1.2 Statistics

There is no central collection of figures on the number of women who develop pre-eclampsia during pregnancy. The NHS website highlights that mild pre-eclampsia affects up to 6% of pregnancies, and severe cases develop in about 1 to 2% of pregnancies.[4]

### Maternal deaths due to pre-eclampsia

The latest report from MBRRACE - the commission which audits all maternal deaths in the UK - provides details of the number of maternal deaths involving pre-eclampsia and eclampsia.[5] The latest estimates available at a UK level are for the period covering 2014-16 when there were six maternal deaths due to pre-eclampsia and eclampsia, representing a rate of 0.13 deaths per 100,000 maternities. A similar rate was observed in 2010-12, 2011-13 and 2012-14 and the number of deaths were 6, 2 and 3 respectively.[6] However, Black and Ethnic Minority Groups were at an increased risk of death due to pre-eclampsia. The MBRRACE report found that Black women, compared to White, were five times more likely to die in pregnancy and Asian women were twice as likely to die. Black women (compared to White) were around three times more likely to develop pre-eclampsia in their pregnancies.

### Baby deaths due to pre-eclampsia related issues

There is no official data on the number of baby deaths due to pre-eclampsia. However, a recent publication from Imperial College researchers estimated that around 1,000 babies per year in the UK die due to pre-eclampsia related issues.[7]

The charity APEC (Action on Pre-eclampsia) has called on the Government to:

- prioritise care for hard-to-reach and at-risk groups in order to reduce inequalities, and
- prioritise research into stillbirths from pre-eclampsia, and
- increase the resources available to support parents through this trauma.

---

[4] NHS UK, Pre-eclampsia.

[5] Eclampsia is defined as a convulsive condition associated with pre-eclampsia (NICE clinical guideline Hypertension in pregnancy: diagnosis and management [CG107], updated January 2011)

[6] Confidential Enquiry into Maternal Deaths 2014-16 (November 2018)

[7] Imperial College: Cardiovascular function is linked to high blood pressure in pregnancy, July 2018

## 1.3 Recent developments

In May 2016, the National Institute of Clinical Excellence (NICE) recommended that a blood test - Placental growth factor (PlGF) be used to help diagnose pre-eclampsia.[8] The NICE guidance states that:

> PlGF-based tests measure the amount of PlGF in blood plasma or serum. PlGF is a protein involved in placental angiogenesis (the development of new blood vessels). In pre-eclampsia, levels of PlGF can be abnormally low. In normal pregnancy, PlGF levels rise and peak at 26–30 weeks, so when PlGF levels do not rise during pregnancy there may be placental dysfunction.

A further study conducted by a team at Kings College London found that PlGF testing reduced the average time to pre-eclampsia diagnosis from 4·1 days to 1·9 days and serious complications before birth (such as eclampsia, stroke, and maternal death) from 5% to 4%.[9]

In response to the Kings College trial, NHS England announced that it would be making the test more widely available across the NHS. Professor Tony Young, national clinical lead for innovation at NHS England, said:

> This innovative blood test, as set out in this new study, helps determine the risks of pre-eclampsia in pregnancy, enabling women to be directed to appropriate care or reduce unnecessary worry more quickly.
>
> The NHS, with partners in government, will be making this test more widely available across the NHS as part of our plans to ensure as many patients as possible can benefit from world-class health innovations.[10]

[8] NICE, PlGF-based testing to help diagnose suspected pre-eclampsia (dg23) May 2016
[9] The Lancet, Placental growth factor testing to assess women with suspected pre-eclampsia: a multicentre, pragmatic, stepped-wedge cluster-randomised controlled trial, April 2019
[10] Kings College London News Centre, Blood test helps accurate, rapid diagnosis for pre-eclampsia

# 2. Press articles and press releases

Blood test helps accurate, rapid diagnosis for pre-eclampsia, King's College London, 1 April 2019

Pregnant women will be offered new blood test after study found could cut risk of complications by one quarter, Telegraph, 1 April 2019

Lab-grown placentas 'will transform pregnancy research', Guardian, 28 November 2018

Pre-eclampsia could triple the risk of some forms of dementia, Telegraph, 17 October 2018

Why are babies still dying in the UK?, Action on Pre-eclampsia, n.d. [Accessed: 8 May 2019]

New research into pre-eclampsia prediction testing, Action on Pre-eclampsia, n.d. [Accessed: 8 May 2019]

# 3. Parliamentary Material

## 3.1 UK Parliamentary Material

Pre-eclampsia PQ 193569 28 November 2018

**Asked by:** Shannon, Jim | **Party:** Democratic Unionist Party

To ask the Secretary of State for Health and Social Care, what steps his Department is taking to reduce the number of people experiencing pre-eclampsia.

**Answering member:** Jackie Doyle-Price | **Party:** Conservative Party | **Department:** Department of Health and Social Care

Hypertension or high blood pressure during pregnancy (known as pre-eclampsia) is the most common medical problem that is encountered in pregnancy. The National Institute for Health and Care Excellence (NICE) guidance, 'Hypertension in pregnancy: diagnosis and management', is aimed at healthcare professionals and women who develop hypertension during pregnancy. The guidance aims to improve care during pregnancy, labour and birth for women and their babies.

Most clinical activity relating to pre-eclampsia is focused on diagnosing the condition as early as possible and managing the condition when it has been identified. NHS England expects providers of maternity care to pay due regard to NICE guidelines on diagnosing and managing pre-eclampsia. These are set out at the following link:

https://www.nice.org.uk/guidance/cg107

Pre-eclampsia PQ 193568 28 November 2018

**Asked by:** Shannon, Jim | **Party:** Democratic Unionist Party

To ask the Secretary of State for Health and Social Care, what training is delivered to nurses to inform their treatment of pre-eclampsia.

**Answering member:** Jackie Doyle-Price | **Party:** Conservative Party | **Department:** Department of Health and Social Care

The devolved administrations in Northern Ireland, Scotland and Wales are responsible for the training of staff working in the National Health Service in that country and the content of training curriculum.

In England, all midwives receive training on the care of women with pre-eclampsia as part of the education programme they complete to become a registered midwife. Each nursing school sets its own curriculum. These have to meet the standards set by the Nursing and Midwifery Council.

Pre-eclampsia PQ 182204 30 October 2018

**Asked by:** Shannon, Jim | **Party:** Democratic Unionist Party

To ask the Secretary of State for Health and Social Care, how many women have been diagnosed with pre-eclampsia in in each of the last five years.

**Answering member:** Matt Hancock | **Party:** Conservative Party | **Department:** Department of Health and Social Care

Pre-eclampsia is not centrally recorded by the number of women who receive diagnosis.

Pre-eclampsia PQ 2673 12 July 2017

**Asked by:** Shannon, Jim | **Party:** Democratic Unionist Party

To ask the Secretary of State for Health, what steps he is taking to reduce pre-eclampsia in pregnant women.

**Answering member:** Mr Philip Dunne | **Party:** Conservative Party | **Department:** Department of Health

Hypertension or high blood pressure during pregnancy (known as pre-eclampsia) is the most common medical problem that is encountered in pregnancy. The National Institute for Health and Care Excellence (NICE) guidance, 'Hypertension in pregnancy: diagnosis and management', is aimed at healthcare professionals and women who develop hypertension during pregnancy. The guidance aims to improve care during pregnancy, labour and birth for women and their babies.

Most clinical activity relating to pre-eclampsia is focused on diagnosing the condition as early as possible and managing the condition when it has been identified. NHS England expects providers of maternity care to pay due regard to NICE guidelines on diagnosing and managing pre-eclampsia. These are set out at:

https://www.nice.org.uk/guidance/cg107

The Maternity Transformation Programme led by NHS England is working to improve maternity services by 2020/21. It seeks to implement the recommendations of 'Better Births' (the report of the National Maternity Review) and ensure that maternity services across England become safer, more personalised, kinder, more professional and more family friendly. The programme aims to reduce health inequalities and ensure all women have access to high-quality maternity care wherever they live in England. In particular, the programme is working to ensure women are in good health before, during and after pregnancy so that families get off to the best possible start. It will do so through a range of interventions including improving preconception care and supporting positive health and wellbeing choices in pregnancy to reduce risk factors.

Baby Loss Awareness Week HC debate volume 647 cc96-7

> I congratulate the hospital in Worthing for its outstanding success. My hon. Friend is right that there is a balance to be struck between the centralisation of care for babies who require very low-volume but high-specialist care, and the need for care to be delivered as close as is reasonably practical to the individual family concerned. That is true of all medical specialties, really. In the case of neonates, we probably have the balance roughly right, but a trend may be starting whereby people ask for things to be centralised that in my perception do not really need to be centralised. As a professional, I often see babies who are not returned to the step-down care as quickly as they could be. Babies are sometimes kept in the tertiary centres for longer than is absolutely necessary. There are complex reasons for that, but I would be grateful if the Minister looked into the issue so that babies can be returned closer to home as soon as possible.
>
> I welcome the Government's ambitious aims to halve the rate of stillbirths and neonatal deaths by 2025. That will be possible only by reducing the number of pre-term deliveries, which are the leading cause of neonatal death in the UK. The Department of Health and Social Care's goal of reducing pre-term birth from 8% to 6% will require a lot more research and intervention. We have a healthier population of women, but the number of pre-term babies continues to increase. More funding is needed for pregnancy research, and particularly for research into the causes of pre-eclampsia, cervical length and infections such as group B strep, as well as for the identification of small babies with early scanning. There must also be more work to discourage smoking, which we already know is an established risk factor for pre-term delivery. I welcome the previous Secretary of State's saying in November 2017 that the Government will reduce smoking during pregnancy from 10.6% to 6% and raise awareness of foetal movement. All those things will contribute towards the reduction of the
>
> number of neonatal deaths and stillbirths. Through that work, the Government are best placed to meet their "halve it" aim, and in doing so save 4,000 lives.
>
> Finally, I wish to discuss those babies who die in the post-natal period—that is, under the age of one but after 28 days of life. Currently, 1.1 in every 1,000 babies die in the post-natal period. The major reason is babies having congenital malformations, and the second most common reason is sudden infant death, the rate of which has recently increased, although the cause is not clear. What is the Minister doing to identify the reasons for the recent increase in sudden infant deaths? What is being done to prevent the number of sudden infant deaths from rising further and, indeed, to bring it down?

## 3.2 Scottish Parliamentary Material

Question S5W-22471: Monica Lennon, Central Scotland, Scottish Labour, Date Lodged: 02/04/2019

To ask the Scottish Government whether it plans to introduce placental growth factor (PLGF) testing for pre-eclampsia.

**Answered by Joe FitzPatrick (23/04/2019):**

Scottish Government has noted with interest the recent trial looking at whether testing for levels of placenta growth factor (PlGF) reduces the risk of women developing severe pre-eclampsia and we will consider its place in the care of pregnant women in Scotland in discussion with other relevant organisations.

**Current Status:** Answered by Joe FitzPatrick on 23/04/2019

# 4. Further reading

Action on Pre-eclampsia Parliamentary Briefing for Westminster Hall Debate on Pre-eclampsia, 9th May 2019, 1330–1630, Action on Pre-eclampsia, 3 May 2019

NICE Pathway on pre-eclampsia, NICE, n.d., [Accessed: 8 May 2019]

Maternal deaths in the UK: pre-eclampsia deaths are avoidable, The Lancet, 11 February 2017

Pre-eclampsia, British Heart Foundation, n.d., [Accessed: 8 May 2019]

Pre-eclampsia, BMJ, 19 July 2012

## About the Library

The House of Commons Library research service provides MPs and their staff with the impartial briefing and evidence base they need to do their work in scrutinising Government, proposing legislation, and supporting constituents.

As well as providing MPs with a confidential service we publish open briefing papers, which are available on the Parliament website.

Every effort is made to ensure that the information contained in these publicly available research briefings is correct at the time of publication. Readers should be aware however that briefings are not necessarily updated or otherwise amended to reflect subsequent changes.

If you have any comments on our briefings please email papers@parliament.uk. Authors are available to discuss the content of this briefing only with Members and their staff.

If you have any general questions about the work of the House of Commons you can email hcinfo@parliament.uk.

## Disclaimer



**DEBATE PACK**
Number CDP 2019/0113
8 May 2019