



PRESS RELEASE

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**Simple bile acid blood test could tell risk of stillbirth**

Clinical researchers at Guy's and St Thomas' and King's College London have found a better way to measure the risk of stillbirth for women with a common liver disorder through a simple blood test.

The discovery will help doctors identify the small number of women at most risk who require intervention to prevent stillbirth. This will allow the majority of women with intrahepatic cholestasis of pregnancy (ICP) who are at a low risk to carry on their pregnancy normally.

The researchers estimate that implementing this test could prevent hundreds of women having unnecessary early deliveries.

ICP is a liver disorder affecting approximately 5,300 pregnancies annually in the UK – more than 14 every day. The condition causes build-up of bile acids in the blood, and symptoms include itching. It was previously thought that small increases in bile acid concentration are associated with higher risks of stillbirth. Pregnant women showing symptoms of ICP, therefore, are often offered early induction of labour at around 37 weeks in order to prevent stillbirth.

To understand the link between ICP, bile acid levels and stillbirth, the authors analysed more than 170,000 pregnancies from 40 international studies. The work was funded by ICP Support, Tommy's, Genesis Research Trust, Wellcome Trust and the NIHR.

The results, published in *The Lancet*, show that the likelihood of stillbirth as a result of ICP is related to the concentration of bile acids in a pregnant woman's blood. This can be determined by a simple blood test.

Professor Catherine Williamson, Consultant Obstetric Physician and Chair in Women's Health at Guy's and St Thomas' and King's College London, who led the study said:

“We are grateful to our collaborators worldwide who have helped us perform the largest study to date, the results of which will enable doctors to personalise treatment for women with ICP.

“We can now identify those women at the highest risk of stillbirth and consider interventions to specifically prevent stillbirth in this group. We will also be able to reassure a large number

of women, who may have previously been concerned, that they are not at increased risk of stillbirth.”

At the moment more than 15% of women with bile acids below the 100 micromole per litre threshold are delivered early: at least 700 a year in the UK and 18,500 globally.

Actress Helen George, Patron of ICP Support, believes that this will be reassuring news for many women with ICP. She said: “My own ICP pregnancy would have been less anxiety-provoking with this latest information but I believe that it's also incredibly important that women who itch continue to let their midwife or doctor know so that they can be tested for the condition.”

The results of the study show that for the majority of women with ICP, who have bile acid concentration below 100 micromoles per litre, the risk of stillbirth is not significantly greater than that of pregnant women without ICP. This means they need no further treatment other than regular bile acid blood tests for the remainder of their pregnancy.

Dr Caroline Ovadia, Chadburn Clinical Lecturer at King's College London, said: “This marks a real step forward in the diagnosis and management of liver disorders during pregnancy. Being able to measure the risks to women and their babies by simple tests allows doctors to concentrate treatment on those who really need it.

“It also means that women will not have to be offered preterm birth unnecessarily which comes with associated risks to their babies including admission to neonatal units, breathing problems and jaundice.

“We are hopeful our findings will help to improve pregnancy outcomes in high risk women and allow thousands of pregnant women to be reassured that their ICP does not pose a significant risk to themselves or their baby.”

Jenny Chambers, CEO of ICP Support who suffered two stillbirths because of the condition said: “We welcome the news that most women with ICP will now be spared the anxiety of worrying about the possibility of stillbirth. However, it important that health professionals realise that regular bile acid testing until birth is vital to ensure that those women who are at greater risk aren't missed.”

Jane Brewin, Chief Executive of Tommy's said: “Stillbirth devastates parents' lives and Tommy's believes that too many babies still die at full term. This study means that we can

detect more otherwise healthy babies who are at risk of sudden death because of their mother's liver condition. This study has the potential to save lives if practice is revised immediately and implemented nationally. Importantly it will prevent babies from being induced early, which carries a risk of lifelong negative consequences for them, and prevent the distress and concern caused to parents who wrongly believe that their baby is at risk."

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#### **Note to editors:**

The paper, 'Association of adverse perinatal outcomes of intrahepatic cholestasis of pregnancy with biochemical markers: results of aggregate and individual patient data meta-analyses', will be published at [http://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(18\)31877-4/fulltext](http://www.thelancet.com/journals/lancet/article/PIIS0140-6736(18)31877-4/fulltext) at 23:30 on 14 February 2019

#### **About the NIHR Biomedical Research Centre at Guy's and St Thomas'**

The National Institute for Health Research (NIHR) Biomedical Research Centre (BRC) at Guy's and St Thomas' NHS Foundation Trust and King's College London works to develop and deliver new medicines and diagnostics to patients, drive research and innovation into the NHS, and provide national systems leadership for maximum impact to patients.

With our research activity organised into nine themes, each holding an individual Athena Swan Silver award highlighting our commitment to equality and diversity, and supported by our interdisciplinary, world leading infrastructure, we are poised to deliver the next step change for the health and wealth of our nation. <http://www.guysandstthomasbrc.nihr.ac.uk/>

#### **About the NIHR**

The National Institute for Health Research (NIHR) is the nation's largest funder of health and care research. The NIHR:

- Funds, supports and delivers high quality research that benefits the NHS, public health and social care
- Engages and involves patients, carers and the public in order to improve the reach, quality and impact of research
- Attracts, trains and supports the best researchers to tackle the complex health and care challenges of the future
- Invests in world-class infrastructure and a skilled delivery workforce to translate discoveries into improved treatments and services
- Partners with other public funders, charities and industry to maximise the value of research to patients and the economy

The NIHR was established in 2006 to improve the health and wealth of the nation through research, and is funded by the Department of Health and Social Care. In addition to its

national role, the NIHR commissions applied health research to benefit the poorest people in low- and middle-income countries, using Official Development Assistance funding.

This work uses data provided by patients and collected by the NHS as part of their care and support and would not have been possible without access to this data. The NIHR recognises and values the role of patient data, securely accessed and stored, both in underpinning and leading to improvements in research and care. [www.nihr.ac.uk/patientdata](http://www.nihr.ac.uk/patientdata)

### **King's College London**

[King's College London](http://www.kcl.ac.uk) is one of the top 10 UK universities in the world (QS World University Rankings, 2018/19) and among the oldest in England. King's has more than 31,000 students (including more than 12,800 postgraduates) from some 150 countries worldwide, and some 8,500 staff.

King's has an outstanding reputation for world-class teaching and cutting-edge research. In the 2014 Research Excellence Framework (REF), eighty-four per cent of research at King's was deemed 'world-leading' or 'internationally excellent' (3\* and 4\*).

Since our foundation, King's students and staff have dedicated themselves in the service of society. King's will continue to focus on world-leading education, research and service, and will have an increasingly proactive role to play in a more interconnected, complex world. [Visit our website](http://www.kcl.ac.uk) to find out more about Vision 2029, King's strategic vision for the next 12 years to 2029, which will be the 200th anniversary of the founding of the university.

*World-changing ideas. Life-changing impact:* <https://www.kcl.ac.uk/news/headlines.aspx>

### **About ICP Support**

ICP Support is a charity with a mission to ensure that every ICP baby is born safely. Intrahepatic cholestasis of pregnancy (ICP) – also known as obstetric cholestasis (OC) – is the most common liver disorder specific to pregnancy. It affects 1 in 140 pregnant women each year in the UK and whilst the causes of ICP are not fully understood, there is an increased risk of spontaneous premature birth, fetal distress and stillbirth.

ICP Support's aims are to provide information and support to people affected by ICP; raise awareness of ICP; and promote research into ICP. It was originally set up (as OC Support) in 1991 by Jenny Chambers and has been a registered charity since 2012.

ICP Support offers a dedicated helpline and social media support groups. It is also the only charity for ICP that can facilitate the recruitment of women to research into the condition.

[www.icpsupport.org](http://www.icpsupport.org)

### **About Tommy's**

Tommy's is the largest pregnancy and baby charity in the UK. We fund research into pregnancy problems and provide pregnancy health information to parents-to-be. We believe it is unacceptable that one in four women lose a baby during pregnancy and birth. With five research centres across the UK investigating the causes of miscarriage, stillbirth and premature birth, we lead the way in maternal and fetal research in the UK.

Our pregnancy health information is provided through the midwife-led Tommy's Pregnancy Health Service, which includes our [comprehensive pregnancy information website](http://www.tommys.org),



our [Tommy's Midwives facebook page](#) and our free Midwives helpline, the PregnancyLine. We believe every pregnancy should have a happy ending and that every baby should have the best chance of being born healthy. [www.tommys.org](http://www.tommys.org)