

# Dabigatran Presence in Breast Milk (DALMATION)

<b>Submission date</b> 09/03/2016	<b>Recruitment status</b> No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
<b>Registration date</b> 09/03/2016	<b>Overall study status</b> Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
<b>Last Edited</b> 21/06/2019	<b>Condition category</b> Pregnancy and Childbirth	<input type="checkbox"/> Individual participant data

## Plain English summary of protocol

### Background and study aims

Women who have given birth, especially those who have had a Caesarean section, are at risk of developing deep vein thrombosis (DVT). DVT is where a blood clot develops in a deep vein in one or both of the legs, causing pain, swelling and long term complications such as leg ulcers. In order to avoid this, these women are usually given injections of a drug called heparin (a blood thinner) for up to 7 days after delivery. If a mother is taking heparin, it is considered safe for the baby as it does not pass into breast milk. Most women are discharged before 7 days after delivery and need to continue doing the injections themselves at home. This involves taking the sharps home, and many women find it difficult and inconvenient and there is evidence to suggest that many women do not take the injections at all. Dabigatran is a blood thinning drug that can be swallowed as a hard capsule. It is currently licenced in the UK for other situations including the prevention of blood clots after hip/knee replacement surgery. It is currently not known whether this drug would pass into breast milk after it has been taken by the mother and therefore safe for the baby. The aim of this study is to find out whether dabigatran capsule could be used instead of heparin injections for new mothers by finding out if it passes into breast milk.

### Who can participate?

Women who have given birth who have made the decision not to breastfeed their baby.

### What does the study involve?

All participants are given two 110mg capsules of dabigatran to take. A total of seven samples of breast milk (15ml each) and blood (15ml) are then taken immediately, 1, 2, 3, 5, 7 and 10 hours after the capsules have been taken. The samples are then tested in the lab in order to find out the amount of dabigatran present in each.

### What are the possible benefits and risks of participating?

There are no direct benefits to participants taking part in this study. There is a small risk of pain and discomfort during the taking of blood samples from participants. Additionally, there is a very small risk of bleeding when taking dabigatran, however all participants be in hospital for the treatment visit and extra safety tests will be done before the drug is given in order to avoid complications.

Where is the study run from?  
Newcastle Clinical Trials Unit (UK)

When is the study starting and how long is it expected to run for?  
February 2016 to August 2016

Who is funding the study?  
National Institute for Health Research (UK)

Who is the main contact?  
Miss Jean Walker

## Contact information

**Type(s)**  
Public

**Contact name**  
Miss Jenn Walker

**Contact details**  
Newcastle University  
Newcastle Clinical Trials Unit  
1-4, Claremont Terrace  
Newcastle upon Tyne  
United Kingdom  
NE2 4AE

## Additional identifiers

**Clinical Trials Information System (CTIS)**  
2014-004249-29

**Protocol serial number**  
20287

## Study information

**Scientific Title**  
An Open Label, Non--Randomised, Phase II study to Determine if Dabigatran and its Metabolites are Detectable in Breast Milk Following Oral Administration to Non--Breastfeeding Mothers

**Acronym**  
DALMATION

**Study objectives**  
The aim of this study is to find out if a dabigatran capsule could be used instead of heparin injections to reduce the risk of deep vein thrombosis in new mothers.

**Ethics approval required**

Old ethics approval format

**Ethics approval(s)**

North East - Tyne & Wear South Research Ethics Committee, 11/11/2015, ref: 15/NE/0331

**Study design**

Open-label non-randomised phase II study

**Primary study design**

Interventional

**Study type(s)**

Treatment

**Health condition(s) or problem(s) studied**

Topic: Children, Reproductive Health; Subtopic: Children (all Diagnoses), Reproductive Health & Childbirth (all Subtopics); Disease: All Diseases, Reproductive Health & Childbirth

**Interventions**

The study duration is 12 months, including a recruit period of 7 months in which to consent 10 women. All eligible and enrolled women will receive a single oral dose of a 110mg dabigatran capsule, swallowed with water. Participants will be asked to complete a 10 hour treatment visit to provide up to 7 expressed breast milk samples and 7 blood samples. Each participant will be supported by the research midwife and additional support offered from the Infant Feeding Coordinator for up to 2 weeks following expression. The last follow up contact at 2 weeks will be the end of the study for the participants, after which their routine post-natal clinical care will continue.

**Intervention Type**

Other

**Phase**

Phase II

**Primary outcome(s)**

Dabigatran presence in plasma and breast milk is measured at baseline, 1, 2, 3, 5, 7, 10 hours.

**Key secondary outcome(s)**

1. Presence of dabigatran metabolites in breast milk is measured at baseline, 1, 2, 3, 5, 7, 10 hours
2. Time course of dabigatran concentration in breast milk is measured at baseline, 1, 2, 3, 5, 7, 10 hours
3. Time course of dabigatran concentration in maternal plasma is measured at baseline, 1, 2, 3, 5, 7, 10 hours

**Completion date**

31/08/2016

**Eligibility**

**Key inclusion criteria**

1. Women aged 18 years and over
2. Woman has had a vaginal birth (spontaneous or instrumental)
3. Minimum of 48 hours has passed after delivery of the baby/removal of epidural catheter or spinal anaesthesia
4. Minimum of 24 hours has passed after the decision has been made and documented in the notes to stop breast feeding the baby after starting/trying to start
5. Hospital inpatient
6. Woman has been offered the opportunity to have a discussion at delivery and in the immediate postnatal period in relation to their feeding choices using the Feeding Your Baby booklet
7. Decision has been confirmed by the woman to exclusively formula-feed her baby (including women who have since decided to stop breast-feeding their baby)
8. Midwife has confirmed the decision with the woman and has documented this in the Feeding Your Baby Booklet held in the medical notes.
9. Normal renal function test – results of the serum creatinine <90 micro mol/L
10. Normal liver function tests – results of the serum ALT <= 40 IU/L
11. Not taking any medication except paracetamol and / or dihydrocodeine. Women who have been given ibuprofen for pain relief after delivery can be included at least 24 hours after the last dose. Women will be advised not to take nonsteroidal anti-inflammatory drugs (aspirin, ibuprofen, diclofenac, naproxen, indometacin) for at least 3 days after taking the study treatment)
12. Participant has provided written informed consent for participation in the study before any study specific procedures take place

**Participant type(s)**

Patient

**Healthy volunteers allowed**

No

**Age group**

Adult

**Lower age limit**

18 years

**Sex**

Female

**Total final enrolment**

2

**Key exclusion criteria**

1. Women who are planning to/are breastfeeding
2. Women who are planning to/giving their baby expressed breast milk
3. Women who are unsure of their decision to breast feed or formula feed
4. Women who are unable to provide written informed consent
5. LMWH thromboprophylaxis is indicated
6. Increased risk of bleeding for any reason

7. An increased tendency to bleed (inborn, of unknown cause or due to other medications)
8. Known contra-indications to dabigatran
9. On-going treatment with aspirin, NSAIDs or other drugs that affect haemostasis
10. Treatment with oral ketoconazole or itraconazole, medicines to treat fungal infections
11. Patients who have received an artificial heart valve, have had a heart attack or suffer an irregular heartbeat (including taking dronedarone)
12. Known impaired renal function (serum creatinine > 90 micro mol/L)
13. Known abnormal liver function tests (ALT > 40 IU/L)
14. Known hypersensitivity or allergy to dabigatran
15. Use of other investigational study drugs within 30 days prior to study entry

**Date of first enrolment**

27/04/2016

**Date of final enrolment**

31/08/2016

## Locations

**Countries of recruitment**

United Kingdom

England

**Study participating centre****Newcastle Clinical Trials Unit**

Newcastle University  
1-4, Claremont Terrace  
Newcastle upon Tyne  
United Kingdom  
NE2 4AE

## Sponsor information

**Organisation**

Newcastle upon Tyne Hospitals NHS Foundation Trust

**ROR**

<https://ror.org/05p40t847>

## Funder(s)

**Funder type**

Industry

**Funder Name**

Boehringer Ingelheim Ltd

## Results and Publications

### Individual participant data (IPD) sharing plan

**IPD sharing plan summary**

Not expected to be made available

**Study outputs**

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
<a href="#">Basic results</a>			21/06/2019	No	No
<a href="#">HRA research summary</a>			28/06/2023	No	No
<a href="#">Participant information sheet</a>	Participant information sheet	11/11/2025	11/11/2025	No	Yes