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Exploring the role of thrombophilias in women with recurrent pregnancy loss and its treatment

Submission date
29/06/2016

Recruitment status
No longer recruiting

Registration date
19/07/2016

Overall study status
Completed

Last Edited
30/11/2020

Condition category
Pregnancy and Childbirth

[ ] Prospectively registered
[ ] Protocol
[ ] Statistical analysis plan
[X] Results
[ ] Individual participant data

Plain English summary of protocol

Background and study aims
Recurrent pregnancy loss (RPL) means having three or more miscarriages in a row. It is relatively common, affecting around one in 100 women. There are many possible causes of RPL, including hormonal imbalances and problems with the shape of the womb. One of the lesser explored causes are inherited blood conditions called heritable thrombophilias, in which the blood clots abnormally easily. This can lead to the flow from the placenta to the baby becoming blocked, depriving the baby of oxygen and nutrients. The usual treatment for this involves taking blood-thinning medications such as asprin or low molecular weight heparin (LWMH), which prevent the blood from clotting unnecessarily. In Taiwan the main type of heritable thrombophilia is protein S deficiency, in which the protein S (a blot clotting agent) in the blood is either too low or does not work properly. This study takes place in two parts. In the first part, medical records of women with RPL who were treated with heparin are reviewed to see if the heparin had an effect on birth outcomes. In the second part, the aim is to find out if giving heparin to women with RPL and protein S deficiency can help to improve birth outcomes.

Who can participate?
In the first part of the study, women of child-bearing age with RPL who were being treated with heparin as part of their standard care between 2011 and 2015 can take part. In the second part of the study, women of child-bearing age with RPL and a known protein S deficiency can take part.

What does the study involve?
In the first part of the study, medical records of women with RPL treated with heparin between 2011 and 2015 are reviewed. For those women who have protein S deficiency, their pregnancy records are also reviewed to see if the heparin improved the chance of successfully having a baby without complications. In the second part of the study, women with RPL and a known protein S deficiency are given LWMH at a dose of 1mg per kilogram of weight from when they agree to take part in the study once every 12 hours until the day before they have their baby. Their medical records are reviewed at the end of the study to find out how many carried their babies to term and how many suffered from complications during or after the birth.

What are the possible benefits and risks of participating?
In the first part of the study, there are no direct benefits or risks involved with participating. In the second part of the study, participants may benefit from carrying a baby to term. There is a risk of bleeding associated with taking blood thinning medication, but doses will be carefully monitored.

Where is the study run from?
Changhua Christian Hospital (Taiwan)

When is the study starting and how long is it expected to run for?
January 2011 to December 2017

Who is funding the study?
Changhua Christian Hospital (Taiwan)

Who is the main contact?
Dr Ming Chen

Study website
http://www2.cch.org.tw/IRB/

Contact information

Type(s)
Scientific

Contact name
Dr Ming Chen

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Changhua Christian Hospital
135 Nanhsiao Street
Changhua
Taiwan
500

Additional identifiers

EudraCT/CTIS number

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
Changhua Christian Hospital IRB No.: 151209

Study information

Scientific Title
The role of low-molecular-weight-heparin in women with recurrent pregnancy loss and protein S deficiency

Study objectives
The aim of this study is to investigate the therapeutic effect of low molecular weight heparin on women with recurrent pregnancy loss and documented protein S deficiency.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Changhua Christian Hospital IRB, 16/02/2016, ref: 151209

Study design
Part 1:
Retrospective cohort medical record review

Part 2:
Interventional non-randomised study

Primary study design
Interventional

Secondary study design
Non randomised study

Study setting(s)
Hospital

Study type(s)
Treatment

Participant information sheet
Not available in web format, please use the contact details to request a patient information sheet

Health condition(s) or problem(s) studied
Recurrent miscarriage

Interventions
Part 1:
Women who had recurrent pregnancy loss (RPL) who have been prescribed heparin between 2011 and 2015 as part of their standard medical care have their medical notes reviewed. Lab tests, including genetic (karyotyping), hematological (thrombophilic factors including protein S, protein C, and anti-thrombin III), immunological (lupus anticoagulant and anti-cardiolipin antibodies IgG, IgM), as well as the past history or lab and physical exam test results to exclude coexisting medical conditions such as diabetes mellitus and chronic essential hypertension are

reviewed. Women found to have a protein S deficiency have their gestational records reviewed in addition to determine gestational age of delivery, the mode of delivery, the birth body weight, and obstetric complication rate.

Part 2:
All participants receive low molecular weight heparin (enoxaparin) in a dose of 1mg/Kg every 12 hours from the time of enrollment to the day (at least 24 hours) before delivery, in addition to normal antenatal examinations and treatment. Participants medical records are reviewed following delivery to establish live birth rate and obstetric complication rate.

Intervention Type
Drug

Phase
Not Applicable

Drug/device/biological/vaccine name(s)
Enoxaparin

Primary outcome measure
Live birth rate is measured using the outcome of pregnancy at either abortion or live-births at the time of delivery collected from medical records.

Secondary outcome measures
Obstetric complication rate is measured using specific parameters such as the birth body weight (if it is low birth weight for gestational age, or appropriate for gestational age), the gestational age when delivery (if less than 28 weeks, between 28 and 36 weeks of gestation, or term pregnancy meaning delivered later than 36 complete weeks of gestation) at delivery collected from medical records.

Overall study start date
01/01/2011

Completion date
31/12/2017

Eligibility

Key inclusion criteria
Part 1:
1. Women of child-bearing age
2. Recurrent pregnancy loss
3. Treated with heparin as part of standard care between 2011 and 2015

Part 2:
1. Women of child-bearing age
2. Recurrent pregnancy loss
3. Protein S deficiency (both the free antigen and function of protein S were reduced)

Participant type(s)

Patient

Age group
Adult

Sex
Female

Target number of participants
60

Total final enrolment
68

Key exclusion criteria
1. Allergic to heparin or other Low Molecular Weight Heparins
2. Problem with bruising or bleeding too easily
3. History of heparin-induced thrombocytopenia
4. Stroke
5. Recently had an operation on brain
6. Renal dysfunction

Date of first enrolment
16/02/2016

Date of final enrolment
15/02/2017

Locations

Countries of recruitment
Taiwan

Study participating centre
Changhua Christian Hospital
135 Nanhsiao Street
Changhua
Taiwan
500

Sponsor information

Organisation
Changhua Christian Hospital

Sponsor details
135 Nanhsiao Street
Changhua
Taiwan
500

Sponsor type
Hospital/treatment centre

Website
http://www.cch.org.tw/

ROR
https://ror.org/05d9dtr71

Funder(s)

Funder type
Hospital/treatment centre

Funder Name
Changhua Christian Hospital

Alternative Name(s)
CCH

Funding Body Type
Private sector organisation

Funding Body Subtype
Other non-profit organizations

Location
Taiwan

Results and Publications

Publication and dissemination plan
Planned publication of results in a peer reviewed journal.

Intention to publish date
31/12/2016

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Stored in repository

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	28/10/2016	30/11/2020	Yes	No