

Effectiveness of TRIONIC compresses to stop abdominal oozing after deep inferior epigastric perforator breast reconstruction surgery

Submission date 17/04/2023	Recruitment status No longer recruiting	<input checked="" type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 18/04/2023	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input checked="" type="checkbox"/> Results
Last Edited 24/06/2025	Condition category Surgery	<input type="checkbox"/> Individual participant data

Plain English summary of protocol

Background and study aims

Breast reconstruction using the deep inferior epigastric perforator (DIEP) technique involves removing a piece of skin and fat from the abdominal region, as well as blood vessels (flap). This flap is placed in the thorax and the vessels of the flap are connected to the vessels of the thorax. The irrigated flap is then shaped to look like a natural breast. In the area where the flap has been harvested (donor site), electrocoagulation (conventional vessel closure technique) is used to limit haemorrhagic oozing (small flows of lymph and blood). Then drains (tubes) connected to bottles are placed in the abdominal area and the donor site is closed. The abdominal drains are used to drain off any haemorrhagic ooze that may accumulate after surgery. If these fluids are not drained, they can lead to complications such as seromas (accumulation of lymph) or haematomas (accumulation of blood), which delay healing. Drains are removed as soon as there is no or very little fluid to drain. TRIONIC compresses are indicated to reduce haemorrhagic oozing. The aim of this study is to demonstrate the effectiveness of TRIONIC in reducing haemorrhagic oozing at the flap donor site.

Who can participate?

Women aged over 18 years having DIEP flap reconstruction

What does the study involve?

Patients will be randomly assigned to either the TRIONIC group (TRIONIC is used on the donor site after electrocautery) or the control group (electrocautery alone). After surgery, the daily volume of abdominal fluid drained and the duration of the abdominal drain are noted. Abdominal complications are monitored for 3 weeks after surgery.

What are the possible benefits and risks of participating?

Participants may benefit from a decrease in drain duration and in the volume of fluid drained. No risks have been identified.

Where is the study run from?

A number of French hospitals. The lead centre is Hopital Européen Georges Pompidou, Paris (France)

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

January 2022 to February 2024

Who is funding the study?

Laboratoires Brothier (France)

Who is the main contact?

Laurent Lantieri, laurent.lantieri@aphp.fr

Contact information

Type(s)

Principal Investigator

Contact name

Prof Laurent Lantieri

Contact details

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Additional identifiers

EudraCT/CTIS number

2022-A02571-42

IRAS number

ClinicalTrials.gov number

Nil known

Secondary identifying numbers

DIEP-TRIOc-11.2022

Study information

Scientific Title

Efficacy of TRIONIC after electrocautery vs electrocautery alone in controlling haemorrhagic oozing from the deep inferior epigastric perforator flap donor site - a multicenter randomized clinical investigation

Acronym

TRIOD

Study objectives

It is hypothesized that TRIONIC could reduce haemorrhagic oozing postoperatively.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Approved 01/02/2023, CPP Sud Est 1 (CPP: Comité de protection des personnes = protection committee for people (involved in the study)) (CHU - Hôpital Bellevue DAMR - pavillon 31, 42055 Saint-Étienne Cedex 2, France; +33 (0)4 77 12 70 08; cpp.sudest1@chu-st-etienne.fr), ref: not applicable

Study design

Multicentre prospective randomized study

Primary study design

Interventional

Secondary study design

Randomised controlled trial

Study setting(s)

Hospital

Study type(s)

Treatment

Participant information sheet

Not available in web format, please use contact details to request a participant information sheet

Health condition(s) or problem(s) studied

Female adult patients having breast reconstruction with deep inferior epigastric perforator (DIEP) flap

Interventions

Patients are randomized (Interactive Web Response System [IWRS]) during surgery after electrocautery of the abdominal area. According to the randomization, patient will be treated with TRIONIC or not. TRIONIC will be applied and maintained in place until the bleeding stops. TRIONIC will be removed before closing the surgical site. Duration of follow-up: 21 days (+/- 3 days).

Intervention Type

Device

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

TRIONIC (alginate)

Primary outcome measure

Number of days of abdominal drainage from placement of the abdominal drains until a volume of 20 ml/24 h is in each of the two drainage bottles

Secondary outcome measures

1. Total volume of abdominal drainage fluid collected in the two drainage bottles from placement of the drains until a drainage volume ≤ 20 ml/24 h is achieved in each of the two bottles
2. Postoperative abdominal complications:
 - 2.1. Percentage of patients with seroma and % of patients with haematoma during 21 days of follow-up
 - 2.2. Percentage of patients with unhealed abdominal suture at 21 days after surgery
3. Tolerance: nature and frequency of TRIONIC-related incidents and adverse events (AEs) related to the investigation procedure

Overall study start date

26/01/2022

Completion date

27/02/2024

Eligibility

Key inclusion criteria

1. Women aged 18 years or over
2. Undergoing unilateral or bilateral DIEP flap breast reconstruction
3. Having read and understood the patient information sheet and signed a written informed consent
4. Affiliated to the French social security system ("Sécurité sociale")

Participant type(s)

Patient

Age group

Adult

Lower age limit

18 Years

Sex

Female

Target number of participants

148

Total final enrolment

Key exclusion criteria

1. Patients with hemophilia, with Willebrand or Rendu-Osler disease or on long-term anticoagulant/antiplatelet treatment
2. Known to be allergic to the components of TRIONIC
3. End of hospitalization planned before the end of abdominal drainage
4. Might not return for the end-of-study visit
5. Under legal protection and/or unable to give written informed consent herself
6. Participating or going to participate or having taken part simultaneously in another trial which could have an impact on haemorrhagic oozing in the abdominal layer

Date of first enrolment

27/04/2023

Date of final enrolment

08/02/2024

Locations**Countries of recruitment**

France

Study participating centre**Hôpital Européen Georges Pompidou**

Chirurgie plastique reconstructrice et esthétique

20 rue Leblanc

Paris

France

75015

Study participating centre**Hôpital Tenon**

Chirurgie plastique reconstructrice et esthétique

4 Rue de la Chine

Paris

France

75020

Study participating centre**Hôpital de la Conception**

Chirurgie plastique et réparatrice

147 Bd Baille

Marseille
France
13005

Study participating centre

Hôpital Rangueil

Chirurgie plastique, reconstructrice et esthétique
1, avenue du Pr Jean Poulhès
Toulouse
France
31400

Study participating centre

Hôtel Dieu

Chirurgie plastique, reconstructrice et esthétique
1 Place Alexis-Ricordeau
Nantes
France
44000

Sponsor information

Organisation

Brothier (France)

Sponsor details

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France
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Recherche.clinique@brothier.com

Sponsor type

Industry

Website

<http://www.brothier.com>

ROR

<https://ror.org/007jkh405>

Funder(s)

Funder type
Industry

Funder Name
Brothier (France)

Results and Publications

Publication and dissemination plan
Planned publication in a high-impact peer-reviewed journal

Intention to publish date
09/11/2025

Individual participant data (IPD) sharing plan
The data-sharing plans for the current study are unknown and will be made available at a later date

IPD sharing plan summary
Data sharing statement to be made available at a later date

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Basic results		24/06/2025	24/06/2025	No	No