

The use of perianal methylene blue injection on post-haemorrhoidectomy pain

Submission date 04/12/2010	Recruitment status No longer recruiting	<input type="checkbox"/> Prospectively registered <input type="checkbox"/> Protocol
Registration date 11/07/2011	Overall study status Completed	<input type="checkbox"/> Statistical analysis plan <input type="checkbox"/> Results
Last Edited 16/09/2016	Condition category Circulatory System	<input type="checkbox"/> Individual participant data <input type="checkbox"/> Record updated in last year

Plain English summary of protocol

Background and study aims

Haemorrhoids, also known as piles, are swellings containing enlarged blood vessels that are found inside or around the bottom (the rectum and anus). Surgery to remove haemorrhoids (haemorrhoidectomy) often leads to pain and discomfort in the period after the operation. Injection of methylene blue, a biological dye, around the anus (perianal) has been shown anecdotally to cause less pain. Methylene blue has also been used successfully in patients with severe itch around the anus who failed to improve with medication. Excellent results have been reported in an earlier study of patients undergoing lateral sphincterotomy (a procedure to treat anal fissures). The aim of this study is to assess the effectiveness of methylene blue injection on pain after haemorrhoidectomy.

Who can participate?

Patients aged between 21 and 80 with haemorrhoids

What does the study involve?

Participants are randomly allocated to be treated with either methylene blue and marcaine (an anesthetic), or marcaine only. After the operation participants are asked to fill in a pain diary and to attend the standard routine reviews in the outpatient clinics. Participation in the study lasts 6 weeks, which is the usual follow-up period for a haemorrhoidectomy patient. Participants need to visit the doctor's office two times in the course of the study at 2 weeks and 6 weeks after the procedure for assessment of their wounds. These visits are part of routine assessment after surgery.

What are the possible benefits and risks of participating?

There is no expected benefit from participation in this study. However, participation in this study may add to the medical knowledge about the use of methylene blue on pain after haemorrhoidectomy. Methylene blue, being a biological dye, will cause temporary discoloration of the skin and urine. Very rarely, perianal infections may occur. Allergic reactions can occur with any drug. Common symptoms include rash and itch. To date, no severe or life-threatening allergic reaction has occurred with methylene blue. Symptoms of a severe reaction include:

swelling of the face, difficulty breathing, and a sudden drop in blood pressure that may cause dizziness. Even though methylene blue is commonly used, participants may experience other side effects that have not yet been reported.

Where is the study run from?

Khoo Teck Puat Hospital (Singapore)

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

August 2008 to January 2012

Who is funding the study?

Investigator initiated and funded (Singapore)

Who is the main contact?

Dr Tan Kok Yang

Contact information

Type(s)

Scientific

Contact name

Dr Tan Kok Yang

Contact details

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Additional identifiers

Protocol serial number

SUR-001, DSRB Ref: D/07/508

Study information

Scientific Title

A single centre prospective randomised clinical trial of the use of perianal methylene blue injection on post-haemorrhoidectomy pain

Study objectives

To assess the efficacy of perianal methylene blue injection in the reduction of post-haemorrhoidectomy pain.

Ethics approval required

Old ethics approval format

Ethics approval(s)

Study design

Single-centre prospective randomised controlled trial

Primary study design

Interventional

Study type(s)

Treatment

Health condition(s) or problem(s) studied

Symptomatic 3rd and 4th degree haemorrhoids

Interventions

Patients will be randomised to undergo haemorrhoidectomy with methylene blue and marcaine 0.5% or marcaine 0.5% only alone intradermal injections using sealed envelopes. A standard medication package will be given to all patients post-operatively.

A standardised general anaesthesia technique would be used. All patients will be given fleet enema prior to surgery. A colorectal surgeon will perform standard Milligan Morgan open haemorrhoidectomies. 4ml of 1% methylene blue and 16ml of 0.5% marcaine will be injected into perianal skin if patient is randomised into methylene blue group. 16mls of marcaine 0.5% and 4ml of saline will be injected if randomised to marcaine alone arm.

Post operative care:

All patients will be prescribed with Fybogel® one sachet daily, Daflon® two tablets twice per day, paracetamol 1g six hourly and diclofenac 50mg twice a day for 2 weeks. All patients will be discharged on the same post-operative day unless otherwise indicated. Wound care advice will be given for patients to clean their wound with shower spray twice per day. They will be given appointment for follow up at 2 weeks and 6 weeks post surgery.

Intervention Type

Drug

Phase

Not Applicable

Drug/device/biological/vaccine name(s)

Methylene blue, marcaine

Primary outcome(s)

1. Pain, assessed using a 11-point visual analogue pain score from 0 to 10 (0 = no pain; 10 = unbearable pain). Participants will be asked to record their maximum pain score daily before retiring.
2. Total number of analgesics tablets patients have taken for the day

Key secondary outcome(s))

Complications which include:

1. Pain requiring unscheduled stay or unscheduled return
2. Urinary retention

3. Delayed bleeding
4. Discharge
5. Itching
6. Skin reaction to methylene blue

Completion date

26/01/2012

Eligibility

Key inclusion criteria

1. Fresh cases of symptomatic 3rd and 4th degree haemorrhoids
2. Aged between 21 and 80 years of age
3. Able to give informed consent

Participant type(s)

Patient

Healthy volunteers allowed

No

Age group

Adult

Sex

All

Key exclusion criteria

1. Undergoing combined procedures for fissures or fistulae
2. Do not give informed consent
3. Allergy reactions to diclofenac, Daflon®, Fybogel®, methylene blue, paracetamol
4. Pregnant or breast feeding women

Date of first enrolment

27/08/2008

Date of final enrolment

26/01/2012

Locations

Countries of recruitment

Singapore

Study participating centre

Khoo Teck Puat Hospital

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Singapore
768828

Sponsor information

Organisation

Khoo Teck Puat Hospital (Singapore)

ROR

<https://ror.org/05wc95s05>

Funder(s)

Funder type

Other

Funder Name

Investigator initiated and funded (Singapore)

Results and Publications

Individual participant data (IPD) sharing plan

IPD sharing plan summary

Not provided at time of registration

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Participant information sheet	Participant information sheet	11/11/2025	11/11/2025	No	Yes