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Metronidazole versus lactic acid for treating bacterial vaginosis

Submission date	Recruitment status	[X] Prospectively registered
18/09/2017	No longer recruiting	[X] Protocol
Registration date	**Overall study status**	[_] Statistical analysis plan
18/09/2017	Completed	[X] Results
Last Edited	**Condition category**	[_] Individual participant data
04/10/2024	Urological and Genital Diseases	

Plain English summary of protocol

Background and study aims

Bacterial vaginosis (BV) is a common condition in women which causes a discharge from the vagina, often with an unpleasant fishy smell. This is embarrassing and often distressing. It is also associated with developing more generalised pelvic infection, the occurrence of complications in pregnancy (including miscarriage and premature delivery) and an increased risk of catching and passing on HIV. It affects 30-50% of women at some time in their lives. Currently an antibiotic called metronidazole is used to treat BV, but often BV comes back again in about a third of women, who then require repeated courses of antibiotic treatment. Antibiotics can also have unwanted side effects and antibiotic resistance can develop if they are used too often. The exact cause of BV is not known but it is associated with a change in the type of bacteria in the vagina, specifically a reduction in 'lactobacilli' and an increase in 'anaerobic bacteria'. Normally, lactobacilli make lactic acid in the vagina, which prevents the growth of anaerobic bacteria. However, in women with BV (where the numbers of lactobacilli have decreased) the vagina is less acid than usual. As a result, the increased number of anaerobic bacteria in the vagina produce various chemicals which cause inflammation and an unpleasant smell. The aim of this study is to see if using an alternative treatment known as lactic acid gel may be effective in treating BV by 'replacing' vaginal acidity in the vagina. Some previous studies have suggested that this approach could be successful but they are not conclusive and current guidelines highlight a need for more information before recommending the use of intravaginal lactic acid gel.

Who can participate?

Women aged 16 or above with symptoms of bacterial vaginosis (BV) and a history of one or more episodes of BV within the previous 2 years which resolved with treatment

What does the study involve?

At their single clinic visit, participants are asked to provide samples for analysis of BV and are then randomly allocated to receive treatment with either intravaginal lactic acid gel used once daily for 7 days (intervention group) or oral metronidazole tablets twice daily for 7 days (control group). Following the initial visit, participants are then followed up for resolution of their symptoms 2 weeks, 3 months and 6 months later with online questionnaires and self-sampling kits, completed at home.

What are the possible benefits and risks of participating?
There are no direct benefits for the participant of taking part in the study. However, the information from this study will help to determine whether topical lactic acid gel is an effective and well tolerated treatment for BV. This study will help to advance understanding and could lead to changes to the current guidelines for recommended BV treatments. Although there is some evidence to suggest that lactic acid gel may be effective in treating BV, we do not know whether it works as well as metronidazole. If it doesn't you may have to have further treatment. As with all medications there is a small risk of side effects, the GP or Nurse will be able to explain these.

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

When is the study starting and how long is it expected to run for?
March 2017 to June 2020 (updated 18/02/2020, previously: November 2019)

Who is funding the study?
Health Technology Assessment Programme (UK)

Who is the main contact?
VITA Trial Team
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Contact information

Type(s)
Scientific

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Clinical Trials Information System (CTIS)
2016-004483-19

Central Portfolio Management System (CPMS)
33038

Study information

Scientific Title
Metronidazole Versus lactic acId for Treating bacterial vAginosis: A randomised controlled trial to assess the clinical and cost effectiveness of topical lactic acid gel for treating second and subsequent episodes of bacterial vaginosis

Acronym
VITA

Study objectives
The aim of this trial is to determine if using lactic acid gel in the vagina to 'replace' vaginal acidity is better than oral metronidazole for symptomatic resolution of recurrent bacterial vaginosis (BV). Some previous studies have suggested that this approach could be successful but they are not conclusive and current guidelines highlight a need for more evidence before recommending the use of intravaginal lactic acid gel. In parallel, the tolerability and acceptability of using lactic acid gel and metronidazole as treatments for BV will be assessed.

Ethics approval required
Old ethics approval format

Ethics approval(s)
London Harrow Research Ethics Committee, 09/09/2017, ref: 17/LO/1245

Primary study design
Interventional

Study design
Randomized; Interventional; Design type: Treatment, Drug, Device

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Bacterial vaginosis (BV)

Interventions
At their single clinic visit, participants are asked to provide initial samples for analysis of BV and will then will be randomised to receive either:
1. Intravaginal lactic acid gel used once daily for 7 days (Intervention)
2. Oral metronidazole tablets, 400mg twice daily for 7 days (control)

Participants are randomised using a remote internet based randomisation system that is developed and maintained by the Nottingham Clinical Trials Unit (NCTU).

Oral metronidazole is currently recommended as first line therapy in the UK national BV treatment guidelines and will be used within its licensed indication. Intravaginal lactic acid gel is a CE-marked medical device, which will be used within its intended purpose. Therefore, the study is classed as a clinical trial of an investigational medicinal product (CTIMP), where oral metronidazole is considered investigational medicinal product (IMP) for the purposes of the trial.

Following the initial visit, participants will then be followed up for resolution of their symptoms 2 weeks, 3 months and 6 months later via participant completed web-based questionnaires and self-sampling kits, completed at home.

Intervention Type
Drug

Phase
Phase III

Drug/device/biological/vaccine name(s)
Metronidazole, lactic acid gel

Primary outcome(s)
Resolution of bacterial vaginosis based on participant reported resolution of symptoms at week 2 (14 days from randomisation).

Key secondary outcome(s)
1. Time to first recurrence of BV is measured using patient reported questionnaires over 6 months
2. Number of participant reported BV episodes is measured using patient reported questionnaires over 6 months
3. Number of participant reported BV treatment courses is measured using patient reported questionnaires over 6 months
4. Microbiological resolution of BV is measured using microscopy of vaginal smears at week 2
5. Comparative tolerability of lactic acid gel and metronidazole assessed by participant reporting of side effects (including nausea, vomiting, taste disturbance, vaginal irritation, diarrhoea and abdominal pain) using patient reported questionnaire at 2 weeks and via participant interviews post intervention
6. Participant reported adherence to treatment is measured using participants reports at 2 weeks
7. Acceptability of treatments via qualitative assessment in a subgroup of participants post intervention
8. Prevalence of concurrent sexually transmitted infections (gonorrhoea, chlamydia and trichomoniasis) at baseline and at week 2
9. Quality of life is assessed by SF-12 questionnaire at baseline, 2 weeks and 6 months
10. Comparative cost effectiveness measured via NHS Service use questionnaire at week 2, 3 and 6 months

Completion date
28/06/2020

Eligibility

Key inclusion criteria
1. Age 16 years or over
2. Clinical diagnosis of bacterial vaginosis – based on patient reported symptoms of discharge with an unpleasant (typically fishy) odour (with or without positive microscopy according to local site practice)
3. History of at least one previous episode of bacterial vaginosis within the past two years

(clinically diagnosed or patient reported) which resolved with treatment
4. Willing to use either intravaginal lactic acid gel or oral tablets for the management of BV
5. Willing to take their own vaginal samples
6. Willing to avoid vaginal douching during treatment
7. Willing to provide contact details and be contacted for the purpose of collecting follow-up information
8. Willing to avoid sexual intercourse or use effective contraception for the 7-day duration of study treatment (condoms are not considered to be effective contraception due to a potential interaction with lactic acid gel)
9. Access to the internet, email and willing to complete web based follow up questionnaires in English
10. Written informed consent

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Adult

Lower age limit
16 Years

Sex
Female

Total final enrolment
518

Key exclusion criteria
1. Contra-indications or allergy to lactic acid gel or metronidazole tablets
2. Pregnant or breastfeeding
3. Patients currently trying to conceive and not willing to avoid sexual intercourse or use effective contraception for the 7-day duration of study treatment
4. Use of oral antibiotics (other than the study treatment) or antifungal agents; concurrently, within the last 2 weeks or planned use within the next 2 weeks
5. Use of topical vaginal antibiotics, antifungals or acidifying products (other than the study treatment) concurrently, within the last 2 weeks, or planned use within the next 2 weeks
6. Previous participation in this study
7. Current participation in another clinical trial involving an investigational medicinal product

Date of first enrolment
25/09/2017

Date of final enrolment
28/06/2019

Locations

Countries of recruitment
United Kingdom

England

Study participating centre
Nottingham Clinical Trials Unit (Coordinating Centre)
The University of Nottingham
Nottingham Health Science Partners
South Block, Queen's Medical Centre
Nottingham
United Kingdom
NG7 2UH

Sponsor information

Organisation
University Hospitals Birmingham NHS Foundation Trust

ROR
https://ror.org/014ja3n03

Funder(s)

Funder type
Government

Funder Name
National Institute for Health Research

Alternative Name(s)
National Institute for Health Research, NIHR Research, NIHRresearch, NIHR - National Institute for Health Research, NIHR (The National Institute for Health and Care Research), NIHR

Funding Body Type
Government organisation

Funding Body Subtype
National government

Location
United Kingdom

Results and Publications

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?
Results article		01/01/2022	24/01/2022	Yes	No
Results article		09/05/2023	10/05/2023	Yes	No
Results article		27/03/2023	20/07/2023	Yes	No
Protocol article	protocol	27/11/2019	02/12/2019	Yes	No
HRA research summary			28/06/2023	No	No
Other publications	Qualitative findings	15/11/2019	04/10/2024	Yes	No
Other publications	Side effects	03/07/2023	04/10/2024	Yes	No
Study website	Study website	11/11/2025	11/11/2025	No	Yes