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Are antibiotics really necessary to treat urinary tract infections in women or can support be offered with pain relief?

Submission date
24/03/2017

Recruitment status
Stopped

Registration date
17/05/2017

Overall study status
Stopped

Last Edited
01/12/2017

Condition category
Urological and Genital Diseases

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[_] Results
[_] Individual participant data
[_] Record updated in last year

Plain English summary of protocol

Background and study aims
A urinary tract infection (UTI) is a common type of infection that affects the urinary system. They are more common in women than men and cause a range of symptoms, including needing to urinate more often or pain when passing urine. Many patients visit their GP for treatment, which usually involves having to take antibiotics. Some research has shown however that many women with UTI symptoms will recover without antibiotic treatment. This study is looking at whether treating the symptoms of a UTI, such as pain, inflammation (swelling) and fever is a suitable alternative to treatment with antibiotics. The aim of this study is to find out whether treating the symptoms of UTIs with pain killers limits the need for antibiotic treatment.

Who can participate?
Women who own a smartphone and have been diagnosed with a UTI by their GP.

What does the study involve?
Participants are randomly allocated to one of two groups. Those in the first group take nitrofurantoin (an antibiotic used to treat UTIs) capsules four times a day for three days. Those in the second group take ibuprofen (a pain killer) capsules four times a day for three days. Participants in both groups download a smartphone app which includes a diary that women record how bad their symptoms are twice a day while they are being treated. Participants are also telephoned after four and 28 days in order to find out how their recovery is going.

What are the possible benefits and risks of participating?
It is expected that the treatment given will improve the symptoms of UTI but this is not guaranteed. The information gained from this study may help lead to the development of new treatments for UTI and it may benefit patients in the future. Sometimes, UTIs can develop into a more serious infection. This risk is very small, but is probably slightly higher in UTIs that are not treated with antibiotics. Also, symptoms may be experienced for a day longer in the ibuprofen group.

Where is the study run from?
The study is run from the Discipline of General Practice, National University of Ireland and takes place in 20 GP Practices (Ireland)

When is the study starting and how long is it expected to run for?
January 2016 to December 2018

Who is funding the study?
Health Research Board (Ireland)

Who is the main contact?
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Study website
www.primarycaretrials.ie/satin

Contact information

Type(s)
Public

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Additional identifiers

EudraCT/CTIS number
2016-003442-87

IRAS number

ClinicalTrials.gov number

Secondary identifying numbers
NUIG-2016-02

Study information

Scientific Title
Ibuprofen versus nitrofurantoin for uncomplicated urinary tract infection – a randomised parallel trial study

Acronym
SATIN

Study objectives
The aim of this study is to evaluate whether initial symptomatic treatment limits the need for antibiotics for uncomplicated urinary tract infections (UTIs) in adult, non-pregnant women.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Research Ethics Committee of The Irish College of General Practitioners

Study design
Double-blind twoarm randomised parallel trial

Primary study design
Interventional

Secondary study design
Randomised parallel trial

Study setting(s)
GP practice

Study type(s)
Treatment

Participant information sheet
www.primarycaretrials.ie/satin

Health condition(s) or problem(s) studied
Uncomplicated urinary tract infection

Interventions
Participants will receive either immediate treatment with nitrofurantoin 50mg, four times daily, or initial symptomatic treatment with ibuprofen 400mg, four times daily for three days. The original tablets of nitrofurantoin and ibuprofen will be over-encapsulated with gelatine capsules for blinding purposes. Because ibuprofen 400mg tablets are too large to over-encapsulate, two 200mg capsules will be produced. Since there is only one nitrofurantoin tablet, a second dummy capsule will be produced. Capsules will be topped up or filled only with placebo made of Lactose /Magnesium stearate. A treatment kit with two opaque bottles will be made for each patient. Each patient treatment pack will contain a bottle with 12 capsules of nitrofurantoin and a bottle of 12 capsules of placebo or two bottles 12 capsules containing ibuprofen each. Each kit will be labelled with a 6 digit treatment number. This labelling is done following a randomisation list using block randomisation.

A smartphone app will be used to follow up the study participants at set times. Patients will be guided to download the SATIN UTI diary app during enrolment and the first entries will be made during the consultation. Subsequently, patients will be requested to record the severity of their symptoms twice a day, once during the morning (from 6 AM to 2 PM) with reminders set at 9, 10 and 11 AM and once in the afternoon (from 4 PM-11PM) with reminders set at 6, 7 and 8 PM.

A telephone call will be made to all patients on day 4 and day 28 (or as soon as possible after this day if this day falls in the weekend). The aim of the day 4 phone call is to make sure the patient is recovering. Additionally, treatment compliance, concomitant medications, UTI Symptom Score, adverse events and return consultation with a GP will be recorded. The purpose of the day 28 call is to collect information on any recurrences and longer term safety outcomes.

Intervention Type
Drug

Phase
Phase III/IV

Drug/device/biological/vaccine name(s)
1. Ibuprofen 2. Nitrofurantoin

Primary outcome measure
Time to recovery with recovery, defined as a total score of <=1 across the symptoms dysuria, frequency, and urgency, as measured by a smartphone UTI diary app twice daily.

Secondary outcome measures
1. The proportion of participants recovered on day 4, with recovery defined as a total score of <=1 across the symptoms dysuria, frequency and urgency, each rated on a 0-4 scale
2. The proportion of participants with symptom resolution on day 4, with resolution defined as a total score = 0 across the symptoms dysuria, frequency and urgency, each rated on a 0-4 scale
3. The proportion of participants who received the back-up antibiotics (change during their treatment or requested at the end of treatment) is assessed recorded on their clinical notes (Ecrf) at the time of an unplanned visit due to worsening of symptoms
4. The proportion of participants who received an antibiotic prescription in the 28 days after the initial consultation is measured during their day 28 follow up call by the research nurse
5. Symptom load during days 0-7 is measured by comparing areas under the curve over the first 7 days
6. Proportion of participants with UTI recurrences in the 28 days after the initial consultation is measured by during their day 28 follow up call by the research nurse
7. Symptom burden of individual symptoms (dysuria, urinary frequency and urgency) from day 0-7 comparing daily scores for each symptom between groups
8. Activity Impairment Assessment (AIA) day 0 and 5, analysed by comparison of the time to resume normal daily activities
9. Proportion of participants with adverse events in the 28 days after the initial consultation

Overall study start date
01/01/2016

Completion date
31/12/2018

Reason abandoned (if study stopped)
Objectives no longer viable

Eligibility

Key inclusion criteria
1. GP- diagnosed urinary tract infection and at least one of the symptoms dysuria, urinary frequency, or urgency with/without low abdominal pain
2. Female
3. Aged 18 years or above
4. Able and willing to give written informed consent and to comply with the requirements of this study protocol
5. Smartphone ownership

Participant type(s)
Patient

Age group
Adult

Lower age limit
18 Years

Sex
Female

Target number of participants
460

Key exclusion criteria
1. Any sign of a complicated infection, such as loin pain, fever, rigors, malaise, or vomiting
2. Pregnancy/breastfeeding child
3. Non-use of a highly effective contraceptive measure if the woman is considered of childbearing potential (WOCBP). Contraception methods with low user dependency should be used.
4. Diabetes mellitus
5. Chronic kidney disease (CKD) defined as estimated Glomerular Filtration Rate (eGFR) <60ml /min/1.73m2 or acute kidney injury, defined as any previously documented eGFR <60ml/min/1. 73m2
6. Disease, anatomical abnormality or previous surgery of kidney or urinary tract
7. One or more urinary tract infections within the last four weeks
8. Permanent bladder catheter or use of bladder catheter within the last four weeks
9. Use of antibiotics within the last two weeks
10. Use of other investigational drugs within the last 30 days prior to screening
11. Concomitant use of NSAIDs and aspirin
12. Previous pyelonephritis
13. Acute porphyria Previous adverse reaction or hypersensitivity to ibuprofen, or worsening of asthma when using non-steroidal anti-inflammatory drugs
14. Previous adverse reaction to nitrofurantoin or other nitrofurans or fosfomycin
15. Current use of proton-pump inhibitor or H2 receptor blocker

16. Previous upper gastrointestinal bleed or perforation
17. Glucose 6 Phosphate Dehydrogenase deficiency
18. Severe heart failure (NYHA Class IV) or hepatic failure
19. Patients with rare hereditary problems of galactose intolerance, the Lapp lactase deficiency or glucose-galactose malabsorption
20. Known allergy to azo colouring agents
21. Inability to follow instructions or comply with follow-up procedures
22. Any other medical condition(s) that may put the participant at risk or influence the study results in the investigator's opinion or the investigator deems unsuitable for the study

Date of first enrolment
01/05/2017

Date of final enrolment
01/05/2018

Locations

Countries of recruitment
Ireland

Study participating centre
National University of Ireland
Discipline of General Practice
School of Medicine
Galway
Ireland
-

Sponsor information

Organisation
National University of Ireland

Sponsor details
University Road
Galway
Ireland
-

Sponsor type
University/education

ROR
https://ror.org/00shsf120

Funder(s)

Funder type
Research organisation

Funder Name
Health Research Board

Alternative Name(s)
Health Research Board, Ireland, An Bord Taighde Sláinte, HRB

Funding Body Type
Government organisation

Funding Body Subtype
Local government

Location
Ireland

Results and Publications

Publication and dissemination plan
Planned publication of the results of the trial as well as any other results in high-impact peer reviewed journals.

Intention to publish date
31/12/2019

Individual participant data (IPD) sharing plan
The current 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