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Saccharomyces boulardii for the prevention of antibiotic-associated diarrhoea

Submission date 08/02/2010	**Recruitment status** Stopped	[ ] Prospectively registered [ ] Protocol
Registration date 07/06/2010	**Overall study status** Stopped	[ ] Statistical analysis plan [ ] Results
Last Edited 07/12/2012	**Condition category** Digestive System	[ ] Individual participant data [ ] Record updated in last year

Plain English summary of protocol

Background and study aims

In the year 2006 37,3 million prescriptions of antibiotics were registered in Germany. Antibiotics are among the most prescribed drugs in this country. Antibiotic associated diarrhoea (AAD) is a frequent and severe condition. It appears in 10-25% of patients in hospitals undergoing antibiotic treatment and results not only in longer hospitalisation but also a higher risk for further complications. Clostridium difficile- associated diarrhoea (CDAD) is an especially severe form of AAD and occurs in 15-25% of all cases of AAD. Clostridium difficile is a naturally occurring bacteria of the healthy intestinal flora. Under suppression of the normal intestinal flora due to antibiotic treatment Clostridium difficile can grow and secrete toxins causing damage to the intestinal tissue. Patients suffering from a CDAD not only undergo a distinctive diarrhoea but may also develop life-threatening complications, e.g. pseudomembraneous colitis or toxic megacolon. AAD and CDAD are also a financial burden to the health care system. The development and evaluation of preventive strategies is one key public health challenge. In the absence of clinically evaluated alternatives, probiotics have been suggested to be help prevent AAD and CDAD. However, data have so far been inconclusive and recently published analyses strongly recommended that large clinical trials should be run. Perenterol® forte is a non-prescription substance approved in Germany for symptomatic treatment of diarrhoea and treatment or prevention of travellers' diarrhoea or diarrhoea due to tube feeding. The active ingredient is Saccharomyces boulardii. Saccharomyces boulardii is considered the most promising probiotic substance for the prevention of AAD and CDAD and is the object of this trial.

Who can participate?

Every contractually capable adult who receives systemic (oral/intravenous) antibiotic treatment while hospitalised in one of our trial centres can participate after signing the written consent form, as long as they comply with inclusion and exclusion criteria.

What does the study involve?

Patients receive the drug Perenterol® forte or a dummy drug twice daily. The capsules are taken orally for the duration and one week following antibiotic treatment. The patient independently records his/her stool frequency and consistence in a diary during the treatment and for another 6 weeks after the treatment.

What are the possible benefits and risks of participating?
Risks due to participation in this trial are minimal.
Sac. boulardii is a living micro-organism which is able to cause generalized fungal infections under adverse circumstances (e.g. immune deficiency) by migration from the gastrointestinal tract into the blood stream or by external contamination of central venous catheters. Individual cases of these generalized fungal infections have been detected in hospitalised patients with central venous catheters additionally suffering from a severe underlying disease mostly localised in the gastrointestinal tract. Known side effects are flatulence and hypersensitivity reactions to the point of anaphylactic shock or sepsis.

Where is the study run from?
A number of German centres

When is study starting and how long is it expected to run for?
The recruitment started in June 2010. The first patient was recruited on 09/07/2010. The estimated end date of the study is 31/07/2012.

Who is funding the study?
German Federal Ministry of Education and Research (BMBF)

Who is the main contact?
Dr. Stephan Ehrhardt, Lead Investigator, ehrhardt@bni-hamburg.de
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Dr. Stefanie Schoppen, Project Manager, schoppen@bni-hamburg.de

Contact information

Type(s)
Scientific

Contact name
Dr Stephan Ehrhardt

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Additional identifiers

Clinical Trials Information System (CTIS)
2009-017374-20

ClinicalTrials.gov (NCT)
NCT01143272

Protocol serial number
BNI-2009-01

Study information

Scientific Title
Saccharomyces boulardii for the prevention of antibiotic-associated diarrhoea: a randomised placebo-controlled multicentre phase III trial

Acronym
SacBo

Study objectives
Evaluation of the efficacy of Saccharomyces boulardii for the prevention of antibiotic-associated diarrhoea in hospitalised, adult patients.

As of 22/03/2012, the trial record has been amended.
Previous target number of participants:1520 (first patient in on 09/07/2010; Initiation visits: 18 trial sites, Currently recruiting trial sites: 11, Suspended/withdrawn trial sites: 7)
Current target number of participants: 1520 (first patient in on 09/07/2010; Initiation visits: 18 trial sites, Currently recruiting trial sites: 7, Suspended/withdrawn trial sites: 11)

Anticipated end date has been updated from 31/07/2012 to 31/01/2013.

As of 25/07/2012, the following changes have been made to this record:
1. The anticipated end date has been updated to 31/07/2013 from 31/01/2013

Ethics approval required
Old ethics approval format

Ethics approval(s)
Ethikkommission der Ärztekammer Hamburg, Humboldtstr. 67a, 22083 Hamburg on 19/04/2010 (Ref: PVN 3440)

Study design
Randomised double-blind placebo-controlled multicentre phase III clinical trial, adaptive study design

Primary study design
Interventional

Study type(s)
Treatment

Health condition(s) or problem(s) studied
Antibiotic-associated diarrhoea

Interventions
250 mg oral Saccharomyces boulardii twice daily (bid) versus corresponding placebo during antibiotic treatment until 7 days after completion of antibiotic treatment.

07/12/2012: Please note that this trial was stopped on 01/11/2012. Number of trial sites: 18, initiation visits, recruitment till termination: 7, termination of trial sites while study was ongoing: 8, withdrawn trial sites: 3

Intervention Type
Drug

Phase
Phase III

Drug/device/biological/vaccine name(s)
Saccharomyces boulardii

Primary outcome(s)
Cumulative incidence of any antibiotic-associated diarrhoea, measured at the end of the study

Key secondary outcome(s))
1. Cumulative incidence of Clostridium difficile-associated diarrhoea
2. Cumulative incidence of antibiotic-associated diarrhoea without evidence of Clostridium difficile (toxins)
3. Cumulative incidence of Clostridium difficile-associated diarrhoea among all antibiotic-associated diarrhoeas
4. Influence of initial white blood cell count and c-reactive protein on the incidence of antibiotic-associated diarrhoea
5. Hazard rate of antibiotic-associated diarrhoea and Clostridium difficile-associated diarrhoea
6. Mean duration of antibiotic-associated diarrhoea and Clostridium difficile-associated diarrhoea
7. Mean stool frequency in patients with antibiotic-associated diarrhoea and Clostridium difficile-associated diarrhoea
8. Cumulative incidence of change of initially prescribed antibiotic

All measured at the end of the study.

Completion date
01/11/2012

Reason abandoned (if study stopped)
Objectives no longer viable

Eligibility

Key inclusion criteria
1. Adult, hospitalised patients receiving systemic antibiotic treatment
2. Written informed consent
3. Aged over 18 years, either sex

Participant type(s)
Patient

Healthy volunteers allowed

No

Age group
Adult

Lower age limit
18 years

Sex
All

Key exclusion criteria
1. Allergy against Saccharomyces boulardii
2. Central venous catheter
3. Immunosuppression
4. Chronic diarrhoea
5. Regular intake of Saccharomyces boulardii before beginning of the study
6. Systemic antimycotic treatment
7. Systemic antibiotic treatment within the last 6 weeks
8. Pregnancy

Date of first enrolment
01/06/2010

Date of final enrolment
01/11/2012

Locations

Countries of recruitment
Germany

Study participating centre
Bernhard-Nocht-Strasse 74
Hamburg
Germany
20395

Sponsor information

Organisation
Bernhard Nocht Institute for Tropical Medicine (Germany)

ROR
https://ror.org/01evwfd48

Funder(s)

Funder type
Research organisation

Funder Name
German Federal Ministry of Education and Research (Bundesministerium Fur Bildung und Forschung [BMBF]) (Germany) (ref: 01 KG 0902)

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
Study website	Study website	11/11/2025	11/11/2025	No	Yes