ISRCTN66168088 https://doi.org/10.1186/ISRCTN66168088

# Live microbial feed supplements for male infertility

| Submission date | Recruitment status | [_] Prospectively registered |
|---|---|---|
| 19/08/2016 | No longer recruiting | [_] Protocol |
| **Registration date** | **Overall study status** | [_] Statistical analysis plan |
| 08/09/2016 | Completed | [X] Results |
| **Last Edited** | **Condition category** | [_] Individual participant data |
| 11/07/2018 | Urological and Genital Diseases | |

**Plain English summary of protocol**

Background and study aims
A couple's inability to conceive after 1 year of regular unprotected intercourse clinically defines infertility, a condition which affects approximately 15% of the reproductive-aged population. Over half of all cases are at least partly due to make fertility problems and up to 40% is due to male fertility problems alone. Male infertility is often linked to abnormalities apparent when the semen is examined. About one third of infertile men are affected by a condition called idiopathic (oligo)±(atheno)±(terato) spermia (iOAT): which occurs despite no evidence of any clinical, instrumental and biochemical sign. iOAT does not respond to therapy and affected men often require assistance if they are to reproduce. This study is investigating a new therapy for iOAT.

Who can participate?
Infertile men, aged 20-50 years with iOAT.

What does the study involve?
Participants are randomly allocated to one of two groups. Those in group 1 are given the drug Flortec-Bracco once a day for three months. Participants in group 2 are given a placebo (starch) tablet once a day for three months. Each participant provides two sperm samples before and then again after the treatment period. The samples are then analysed for sperm count and mobility (how well they move).

What are the possible benefits and risks of participating?
The only benefit for participating will be the fact that patients treated with the active drug might have their problem cured. No side effect s are expected.

Where is the study run from?
Gynepro Medical (Italy)

When is the study starting and how long is it expected to run for?
January 2015 to December 2016

Who is funding the study?
Gynepro Medical (Italy)

Who is the main contact?
Dr Carlo Maretti

# Contact information

### Type(s)
Public

### Contact name
Dr Carlo Maretti

### Contact details
via Somaglia 10
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Italy
29121

# Additional identifiers

### EudraCT/CTIS number

### IRAS number

### ClinicalTrials.gov number

### Secondary identifying numbers
2016/1

# Study information

### Scientific Title
Oral administration of a placebo (starch) or of an active drug (L. paracasei B21060 + arabinogalattan and fruttoligosaccarides (Flortec-Bracco)) to two distinct populations of (oligo)±(atheno)±(terato) spermic infertile patients. Comparison of efficacy and of safety between placebo and active drug for the treatment of (Oligo)±(atheno)±(terato) spermia associated to idiopathic male infertility.

### Acronym
EPA (Evidence for Pregnancy Achievement)

### Study objectives
The aim of this study is to assess whether oral administration of probiotics and prebiotics (L. paracasei B21060 + arabinogalattan and fruttoligosaccarides (Flortec-Bracco)) improves sperm count and fertility of dyspermic infertile patients.

### Ethics approval required
Old ethics approval format

### Ethics approval(s)

Bioethics Committee, GynePro Medical, 29/06/2016, ref: CdB 0112016

## Study design
Interventional double-blind placebo-controlled study

## Primary study design
Interventional

## Secondary study design
Randomised controlled trial

## Study setting(s)
Other

## Study type(s)
Treatment

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

## Health condition(s) or problem(s) studied
Idiopathic (Oligo)±(atheno)±(terato) spermia associated to male infertility.

## Interventions
This study consists of two arms. Participants will be randomly allocated to one of these arms.

The patients of the first arm will be treated with active drug: L. paracasei B21060 + arabinogalattan and fruttoligosaccarides (Flortec-Bracco) one medicine sachet (containing L. paracasei B21060≥ 5 x 109 Colony Forming Units, Arabinogalattan 1.243 g, fructo-oligosaccarides 700 mg, L-glutammin 500 mg) once a day for six months.

The patients of the second arm will assume one 1 g starch tablet once a day for three months.

Three months after the suspension of the therapies the patients of both arms will be submitted to sperm analysis, hormonal assessment and bilateral scrotal echographic scan. Medical events occurred in this time will be recorded as well.

## Intervention Type
Supplement

## Primary outcome measure
Sperm concentration, sperm motility and percentage of typical sperm forms, measured at baseline and at 3 months

## Secondary outcome measures
1. The number of biochemical pregnancies (detected by measuring serum β-hCG on at least two occasions 14 days after the last expected menstruation)
2. The numbers of clinical pregnancies (defined as detectable heart activity)

The differences between active drug or placebo group were assessed using the Mann–Whitney U test.

### Overall study start date
02/01/2015

### Completion date
01/12/2016

## Eligibility

### Key inclusion criteria
1. Infertile (oligo)±(atheno)±(terato) spermic infertile males aged 20-50
2. Normal sperm appearance, consistency, liquefaction, volume, and pH

### Participant type(s)
Patient

### Age group
Adult

### Sex
Male

### Target number of participants
This is a prospective blind placebo controlled trial. Active drug has no side effect thus a power analysis will be performed to estimate the number of observations we need to have a reliable chance of detecting the effect we are looking for. Since there are no formal standards for power (π), we have assessed the power of our tests using π = 0.90 as a standard for adequacy. This convention implies a ten-to-one trade off between β-risk and α-risk. Beta is the probability of a type-II error (not detecting a difference between the patients groups when one actually exists: false negative) this research used a 10% cut-off; α is the probability of a type-I error (finding a difference betwenn the patient groups when a difference does not exist: false positive), this research used a 1% cut-off (Mc Donald et al. 2009). The power calculations were performed with G*Power 3 statistical power analysis program (Faul et al. 2007). At worst 40 patients for each cluster will be studied. (Faul et al. 2007). References Faul, F, Erdfelder E, Lang, AG, & Buchner, A. (2007) G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. Behav Res Meth. 39, 175-191. McDonald JH (2009) Handbook of Biological Statistics (2nd Edition), Sparky House Publishing, Baltimore MD.

### Key exclusion criteria
1. Azoospermia
2. Seminal white blood cell concentration greater than 1 million/ml and/or a positive seminal cultural analysis or 3. Positive urethral swab chlamydia test
4. Drug, tobacco, or alcohol abuse
5. Ongoing medical treatment
6. Previous cancer radiotherapy or chemotherapy
7. Palpable varicocele
8. X-ray exposure in the previous 8 months

9.Y chromosome microdeletion
10. Karyotype alterations
11. Presence of female factors for infertility
12. Female partner age > 35 years

### Date of first enrolment
01/02/2015

### Date of final enrolment
01/12/2016

## Locations

### Countries of recruitment
Italy

### Study participating centre
**Gynepro Medical**
via Tanquillo Cremona 8
Bologna
Italy
40137

## Sponsor information

### Organisation
Gynepro Medical

### Sponsor details
via Tranquillo Cremona 8
Bologna
Italy
40137

### Sponsor type
Hospital/treatment centre

### Website
http://www.gynepro.it/

### ROR
https://ror.org/03segdh23

# Funder(s)

**Funder type**
Hospital/treatment centre

**Funder Name**
Gynepro Medical

# Results and Publications

**Publication and dissemination plan**
To be confirmed at a later date

**Intention to publish date**
01/12/2017

**Individual participant data (IPD) sharing plan**
The datasets generated during and/or analysed during the current study are/will be available upon request from Dr Giorgio Cavallini

**IPD sharing plan summary**
Available on request

**Study outputs**

| Output type | Details | Date created | Date added | Peer reviewed? | Patient-facing? |
|---|---|---|---|---|---|
| Results article | results | 01/05/2017 | | Yes | No |