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The effect of Robuvit® on the healing process of women undergoing hysterectomy

Submission date
06/09/2019

Recruitment status
No longer recruiting

Registration date
13/09/2019

Overall study status
Completed

Last Edited
06/11/2023

Condition category
Surgery

[_] Prospectively registered
[_] Protocol
[_] Statistical analysis plan
[X] Results
[_] Individual participant data

Plain English summary of protocol

Background and study aims
Hysterectomy is one of the most common operative gynecological procedures and states for surgical removal of the uterus. Rates of hysterectomy differ considerably between countries, ranging from a high of 5.4 per 1000 women in the USA to intermediate rates, such as 3.7 per 1000 in Italy to just 1.2 per 1000 in Norway. Total hysterectomy means removal of the whole uterus including cervix, subtotal hysterectomy states for the removal of uterus without cervix, preferred by some surgeons in order to decrease the negative effect on pelvic floor and sexual functions, however, this has not been confirmed. Indications for hysterectomy include menorrhagia as the most frequent indication in premenopausal women due to myomas or adenomyosis, pelvic pain due to endometriosis/adenomyosis after unsuccessful conservative treatment and uterine prolapse. Malignancy or postpartum hemorrhage account only for 10% of all hysterectomies. In general, hysterectomy improves psychological and general wellbeing of the patients due to removal of the symptoms that led to the surgery. However, patients quality of life during postoperative recovery is significantly impaired by symptoms such as fatigue, headache, nausea, depression, pain, wound infection, bleeding. These symptoms may have a significant social and economic impact. During surgery, biological pathways leading to oxidative stress and the production of free radicals are activated.

Despite many studies on the aspects of postoperative recovery, no consensus about a validated procedure to accelerate or assist recovery in this period exists.

Taking into account findings on the effect of an extract from the wood of French oak (Quercus robur), Robuvit® (further referred to as Robuvit), on energy level and mental health and the positive outcome of clinical studies related to improvement of symptoms of fatigue, burnout, recovery after sport or fatigue in medical convalescence all in conjunction with reduction of oxidative stress, we investigate the influence of Robuvit on recovery of women after hysterectomy.

Who can participate?
Women underwent hysterectomy for benign indications such as meno-/metrorrhagia or uterine prolapse can participate.

What does the study involve?
Patients are taking either Robuvit or placebo, whose effect will be compared. Patients are randomly and blindly divided into two arms (1:1 ratio) – Robuvit and placebo groups. Patients receive three times daily 100 mg Robuvit (300 mg/day) or 3 capsules placebo for 8 weeks. Placebo capsules were of the same shape and appearance as capsules containing Robuvit.

What are the possible benefits and risks of participating?
The improvement of recovery and post-operative state after the hysterectomy is expected after the intervention with Robuvit.

No adverse effects were seen after taking Robuvit In previous studies.

Where is the study run from?
The study is running in one centre: Department of II. Gynecology and Obstetrics, Medical Faculty, Comenius University and University hospital, Bratislava, Slovakia.

When is the study starting and how long is it expected to run for?
The study started in June 2014 and is expected to be completed in December 2019.

Who is funding the study?
The study is funded partly by Horphag Res., by University of Comensky and Mind and Health, civil association (in Slovak: Rozum a Zdravie, občianske združenie).

Who is the main contact?
Prof. Zdenka Durackova (zdenka.durackova@fmed.uniba.sk)

Contact information

Type(s)
Scientific

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Study information

Scientific Title

The effect of Robuvit® on convalescence and healing process of women undergoing hysterectomy The effect of Robuvit® on convalescence and healing process of women undergoing a hysterectomy

Acronym
HyeRob

Study objectives
The recovery state of women after a hysterectomy may be positively affected by the use of Robuvit®.

Ethics approval required
Old ethics approval format

Ethics approval(s)
Approved 25/06/2014, Ethical Committee of the University Hospital and the Faculty of Medicine, Comenius University Bratislava, Slovakia (Pažitková 4, 821 01, Bratislava; +421 2 48 234 793; okf@ru.unb.sk), ref: 159/2014.

Primary study design
Interventional

Study design
Single-centre, randomized, double blinded, placebo controlled interventional study

Study type(s)
Quality of life

Health condition(s) or problem(s) studied
Wellbeing and recovery of women after a hysterectomy

Interventions
Patients are randomly and blindly divided into two arms (1:1 ratio) – Robuvit and placebo groups. Robuvit® is a registered trademark of Horphag Research. Placebo contained magnesium stearate, silicon dioxide, stearic acid, glucidex 12D. In addition, light brown dye was added to yield the same appearance as the verum capsules. Robuvit and placebo capsules were provided by Horphag Res.

After vaginal hysterectomy, capsules are dispensed to patients starting on the third day postoperatively. Patients receive three times daily 100 mg Robuvit (300 mg / day) or 3 capsules placebo for 8 weeks. Placebo capsules were of the same shape and appearance as capsules containing Robuvit. The Technician, the patients, the physicians and the statistician, evaluating the results of the study, were blinded until the end of the statistical evaluation.

Intervention Type
Drug

Phase
Not Specified

Drug/device/biological/vaccine name(s)

Robuvit

Primary outcome(s)
Mental and physical wellbeing is measured using validated standardized questionnaire SF-36 at the baseline (before surgery) and after weeks 4 and 8 of intervention.

Key secondary outcome(s)
1. Biochemical parameters (glucose, creatinine, uric acid, total proteins, triacylglycerols, total cholesterol, LDL- and HDL-cholesterols an hsCRP) are measured using standard biochemical procedures in Medirex servis, s.r.o. Bratislava at the baseline and after week 8 of intervention.
2. Markers of oxidative stress (markers of lipid damage - lipoperoxides, protein damage - AOPP, total antioxidant status as TEAC and on the activities and the levels of MMP-2 and MMP-9) are measured using the following methods:
2.1. The antioxidant capacity of plasma was determined with the TEAC method (trolox equivalent antioxidant capacity) on the Hitachi 911 automated analyser using the Randox set (United Kingdom). Antioxidant activity was expressed in nmol trolox/mL of plasma (Re et al., 1999).
2.2. Lipid hydroperoxides (LPx) in blood serum were determined according to El-Saadani et al. (1989), advanced oxidation protein products (AOPP) according to the modified Witko-Sarsat et al. (1998).
2.3. The gelatinolytic activities of metalloproteinases (MMPs) were analyzed in plasma by zymography in 10% polyacrylamide gels containing gelatin (Giannakos et al., 2019). Protein level of MMPs was determined by Western blot analysis (Bartekova et al., 2015).
2.4. Investigation of metabolites of Robuvit in serum/blood cells which should be formed in GIT from the original molecules present in Robuvit and determination of potential biological activities.

Completion date
30/06/2018

Eligibility

Key inclusion criteria
1. Undergoing hysterectomy for benign indications such as meno/metrorrhagia or uterine prolapse. Preoperatively, the patients did not take any analgesics or other drugs related to the symptomatology
2. Signed informed consent.

Participant type(s)
Patient

Healthy volunteers allowed
No

Age group
Not Specified

Sex
Female

Key exclusion criteria
1. Currently enrolled in another study.
2. Malignant disease, severe systemic disease, chronic autoimmune diseases.
3. Significant psychiatric disorders or receiving antipsychotic drug.

Date of first enrolment
01/02/2015

Date of final enrolment
31/12/2017

Locations

Countries of recruitment
Slovakia

Study participating centre
Comenius University and University Hospital
Department of II. Gynecology and Obstetrics
Medical Faculty
Ružinovská 61.
Bratislava
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Sponsor information

Organisation
Comenius University, Faculty of Medicine

ROR
https://ror.org/0587ef340

Funder(s)

Funder type
Industry

Funder Name
Horphag Research Ltd.

Results and Publications

Individual participant data (IPD) sharing plan

The datasets generated during and/or analysed during the current study are/will be available upon request from responsible investigator Prof. Zdenka Ďuračková, PhD. (zdenka.durackova@fmed.uniba.sk). Data will be available after the publishing of main results in accordance of study hypothesis. Patients in the Informed Consent were informed that all data on them are confidential. Their identity data will not be publicly available. If the results of this study are published, their personal data will remain confidential.

IPD sharing plan summary

Available on request

Study outputs

Output type	Details	Date created	Date added	Peer reviewed?	Patient-facing?
Results article	results	27/03/2020	02/04/2020	Yes	No
Results article	Constituents and metabolites	26/02/2020	06/11/2023	Yes	No