Efficacy of tibolone and raloxifene for the maintenance of skeletal muscle strength, bone mineral density, balance, body composition cognitive function, mood/depression, anxiety and quality of life / well-being in late postmenopausal women > 70 years: Study design of a randomized, double-blind, double-dummy, placebo-controlled, single-center trial

Gepubliceerd: 18-01-2008 Laatst bijgewerkt: 18-08-2022

The primary aim is to determine if there is a difference between tibolone and placebo or if there is a difference between raloxifene and placebo. The secondary aim is to determine if there is a difference between tibolone and raloxifene. Primary...

Ethische beoordeling	Positief advies
Status	Werving gestopt
Type aandoening	-
Onderzoekstype	Interventie onderzoek

Samenvatting

ID

NL-OMON23828

Bron
Nationaal Trial Register

Verkorte titel
N/A

Aandoening

muscle strenth, BMD, body composition, cognition

spierkracht, botmineraaldichtheid, lichaamssamenstelling

Ondersteuning

Primaire sponsor: dr HJJ Verhaar
Overige ondersteuning: ZonMW

Onderzoeksproduct en/of interventie

Uitkomstmaten

Primaire uitkomstmaten

Primary endpoints are muscle strength and bone mineral density.

Toelichting onderzoek

Achtergrond van het onderzoek

Background

Postmenopausal women are prone to develop functional disabilities as a result of reduction in muscle strength and muscle mass caused by diminished levels of female sex hormones. While hormone replacement therapy may counteract these changes, conventional hormone replacement therapy is associated with potential harmful effects, such as an increased risk of breast cancer, and its prescription is not recommended. For this reason newer alternative drugs, such as tibolone, a synthetic steroid with estrogenic, progestogenic and androgenic activity, and raloxifene, a selective estrogen receptor modulator, may be more appropriate. This trial investigates the effect of tibolone and raloxifene on muscle strength.
Methods
We recruited 318 elderly women in our single-center randomized, double-blind, double-dummy, placebo-controlled trial. Participants were randomized to tibolone 1.25 mg (Org OD 14, Organon NV, the Netherlands) plus placebo, raloxifene 60 mg (Evista®, Eli Lilly, United States) plus placebo or two placebo tablets daily for 24 months. 283 women started.
The primary aim is to determine if there is a difference between tibolone and placebo or if there is a difference between raloxifene and placebo. Primary endpoints are muscle strength and bone mineral density. The secondary endpoints are postural balance, body composition, cognitive function, anxiety, mood and quality of life. The secondary aim is to determine if there is a difference between tibolone and raloxifene.

The measure of effect is the change from the baseline visit to the visits after 3 months, 6 months, 12 months, and 24 months. A follow-up measurement is planned at 30 months to determine whether any effects are sustained after cessation of the study.

Doel van het onderzoek

The primary aim is to determine if there is a difference between tibolone and placebo or if there is a difference between raloxifene and placebo. The secondary aim is to determine if there is a difference between tibolone and raloxifene.
Primary endpoints are muscle strength and bone mineral density.
The secondary endpoints are postural balance, body composition, cognitive function, anxiety, mood and quality of life

Onderzoeksopzet

0, 3 months, 6 months, 12 months, 24 months, 30 month (one month=28 days)

Onderzoeksproduct en/of interventie

Muscle power and muscle strength:

- Maximum voluntary isometric knee extension strength (both legs) was measured as the force applied at the ankle, with the subject seated in an adjustable straight-back chair, the lower leg unsupported and the knee flexed to 90 degree. Force was measured with a strain gauge and recorded with a strain meter.
Explosive leg extensor power (both legs) was assessed with the Nottingham Power Rig.

Handgrip strength (both hands), which is associated with general muscle strength, was measured with a handgrip mechanical dynamometer.

Bone mineral density (BMD):

BMD, measured by DEXA, was measured at the lumbar vertebrae (L1-L4, calculated from the total bone mineral content and the total area of the four lumbar vertebrae) and at the hip (neck, trochanter, and intertrochanteric region). (0 and 24 months)

The following secondary parameters were used to determine the effect of the study medication:

Functional mobility was assessed quantitatively with the timed 'get up & go' - test.

Postural balance was assessed by means of an analysis of body sway and by the functional

reach test. Body sway was assessed with both eyes open and both eyes closed. In the Functional Reach the maximal push is recorded in cm.
Endurance was measured with the 6-minute walking test. (modified Cooper test).
Body composition was measured by bio-electrical impedance analysis (BIA) and by DEXA.

Quality of life, well-being and mood/depression:

- Quality of life was measured with the Women's Health Questionnaire (WHQ) and the EQ-5D questionnaire. The EuroQol (EQ-5D) questionnaire was developed by a European group as a standard non-disease-specific instrument for describing and valuing quality of life (EuroQol, Kind).

- Mood/depression was measured with the Geriatric Depression Scale (GDS).

- Anxiety was measured with the Dutch Version of the State-Trait Anxiety Inventory (Self-Judgment Questionnaire = STAI-DY). The STAI was specifically designed to be self-administered.

Cognitive function (15 Words test; Trails B test):

Cognitive function was assessed with the Groningen 15 Words test and the Trails B test. The Groningen 15 Words test is an improved version of a test originally devised by Rey.

Contactpersonen

Publiek

Postbus 85500
D.E. Jacobsen
Department of Geriatric Medicine, Mobility Laboratory, University Medical Center Utrecht

Utrecht 3508 GA
The Netherlands
088-7558280

Wetenschappelijk

Postbus 85500
D.E. Jacobsen
Department of Geriatric Medicine, Mobility Laboratory, University Medical Center Utrecht

Utrecht 3508 GA
The Netherlands
088-7558280

Deelname eisen

Belangrijkste voorwaarden om deel te mogen nemen (Inclusiecriteria)

1. Healthy postmenopausal women

2. Minimum age 70 years at the time of inclusion

3. Body mass index between 18 and 35 kg/m2

4. Subjects should be willing and able to comply with the protocol for the duration of the study, after written informed consent

Belangrijkste redenen om niet deel te kunnen nemen (Exclusiecriteria)

1. Steroid therapy or other drugs affecting muscle mass taken during the last 6 months

2. History or presence of any malignancy (except non-melanoma skin cancers)

3. Undiagnosed abnormal vaginal bleeding in the past year prior to screening

4. Presence or history of endometrial hyperplasia with or without atypia

5. Presence or history of cardiovascular, cerebrovascular or thrombo-embolic disorders

6. Current liver or renal disease or history of this condition

7. Uncontrolled hypertension (systolic blood pressure > 170 mm Hg systolic and/or diastolic blood pressure >105 mm Hg)

8. Osteoporosis: Z-score < -2

9. Bone disease other than osteoporosis such as Paget's disease

10. Osteomalacia or bone metastases

11. Alcohol abuse (average intake of more than 4 alcohol containing units per day)

12. Smoking more than 10 cigarettes/day

13. Use of sex hormones, corticosteroids, insulin, anti-coagulants or enzyme-inducing drugs

14. Treatment with tibolone or raloxifene within the last 6 months

15. Known hypersensitivity to tibolone or raloxifene

16. Presence of any condition, concomitant disease, intercurrent illness or resultant therapy that would interfere either with the participants's compliance or with the results of the study and/or their evaluation

17. Major problems with locomotion and cognitive impairment (MMSE <24)

18. Participation in another study.

Onderzoeksopzet

Opzet

Type:	Interventie onderzoek
Onderzoeksmodel:	Parallel
Toewijzing:	Niet-gerandomiseerd
Blindering:	Dubbelblind
Controle:	Placebo

Deelname

Nederland

Status:	Werving gestopt
(Verwachte) startdatum:	15-07-2003
Aantal proefpersonen:	324
Type:	Werkelijke startdatum

Ethische beoordeling

Positief advies

Datum:	18-01-2008
Soort:	Eerste indiening

Registraties

Opgevolgd door onderstaande (mogelijk meer actuele) registratie

Geen registraties gevonden.

Andere (mogelijk minder actuele) registraties in dit register

Geen registraties gevonden.

In overige registers

Register	ID
NTR-new	NL1187
NTR-old	NTR1232
Ander register	: 02/163-E
ISRCTN	ISRCTN wordt niet meer aangevraagd

Resultaten

Samenvatting resultaten
N/A