A phase I open-label, balanced, randomized, crossover, three-groups, three-treatments, three-period, pharmacokinetic study of intranasal testosterone gel administration to healthy, adult, male subjects

Published: 28-04-2011
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The purpose of the study is to determine the PK profile of three different intranasal testosterone formulations.

Ethical review	Approved WMO
Status	Recruitment stopped
Health condition type	Endocrine disorders of gonadal function
Study type	Interventional

Summary

ID

NL-OMON36048

Source
ToetsingOnline

Brief title
Comparison of three intranasal testosterone gel formulations

Condition

- Endocrine disorders of gonadal function

Synonym
hypogonadism, low testosterone levels in men

Research involving
Human

Sponsors and support

Primary sponsor: Trimel BioPharma SRL
Source(s) of monetary or material Support: Trimel BioPharma SRL

Intervention

Keyword: men, pharmacokinetics, testosterone

Outcome measures

Primary outcome

To determine a pharmacokinetic profile of testosterone for all subjects in all treatments by measuring:

• Cmin, Cmax, and tmax for the 12 hour interval.

• AUC0-12, and Cavg.

• The relative pharmacokinetic profile of three different formulations of intranasal testosterone will be determined using the AUC0-12h and Cmax0-12h corrected for the endogenous serum testosterone concentrations.

Secondary outcome

Safety

• DHT levels

• Vital Signs (Blood Pressure, Body Temperature, Respiratory Rate, Heart Rate).

• Physical and otorhinolaryngological examination.

• Complete Blood Count: white blood count, hemoglobin and hematocrit.

• Clinical chemistry profile: Na/K, glucose, urea, creatinine, calcium, phosphate, uric acid, total bilirubin, albumin, AST, ALT, ALP, GGT and CK.

• Urinalysis.

Study description

Background summary

Trimel BioPharma has developed an intranasal testosterone gel (TBS-1/1A) as a hormone replacement therapy for the treatment of male hypogonadism. The nasal mucosa offers an alternative route of administration that is not subjected to the first pass metabolism, has high permeability, with rapid absorption into the systemic ciruclation, producing high plasma levels similar to those observed after intravenous administration. The advantages of intranasal testosterone gel, compared to other modes of administration, include ease of administration, lower amounts of testosterone and no transference of testosterone to other family members.

Study objective

The purpose of the study is to determine the PK profile of three different intranasal testosterone formulations.

Study design

This will be an open-label, balanced, randomized, crossover, three-group, three-treatment, three-period, pharmacokinetic study in healthy adult male subjects

Intervention

testosterone intranasal gel

Study burden and risks

The risk to the subject by participating in this study is considered to be minimal. Testosterone replacement therapy is indicated for the treatment of hypogonadism and TBS-1 has been administered to over 100 men with minimal side effects. Participants may find the nasal endscopy and numerous blood draws unplesant.

There is no direct benefit to subjects participating in this study as they are healthy men. Subjects will be financially compensated for their participation.

Contacts

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Trial sites

Listed location countries

Netherlands

Eligibility criteria

Age
Adults (18-64 years)
Elderly (65 years and older)

Inclusion criteria

1. Healthy male human subjects within the age range of 18 to 45 years inclusive
2. Willingness to provide written informed consent to participate in the study
3. Body-mass index less than 30 kg/m2
4. Absence of significant disease or clinically significant abnormal laboratory values on laboratory evaluations, medical history or physical examination during screening
5. Normal otorhinolaryngological examination
6. Non-smokers for at least six months
7. Comprehension of the nature and purpose of the study and compliance with the requirement of the protocol

Exclusion criteria

1. Personal / family history of allergy or hypersensitivity to testosterone or related drugs
2. Past history of anaphylaxis or angioedema
3. Any major illness in the past three months or any clinically significant ongoing chronic medical illness e.g. congestive heart failure, hepatitis, pancreatitis etc.
4. Presence of any clinically significant abnormal values during screening e.g. significant abnormality of Liver Function Test (LFT), Renal (kidney) Function Test (RFT), etc.
5. Hemoglobin < 13g/dl and Hematocrit > 52% during screening
6. Any cardiac, renal or liver impairment, any other organ or system impairment
7. History of seizure or clinically significant psychiatric disorders
8. Presence of disease markers for HIV 1 and/or 2, Hepatitis B and/or C virus
9. History of nasal surgery, specifically turbinoplasty, septoplasty, rhinoplasty, (*nose job*), or sinus surgery
10. Subject with prior nasal fractures
11. Subject with active allergies, such as rhinitis, rhinorrhea, or nasal congestion
12. Subject with mucosal inflammatory disorders, specifically pemphigus, or Sjogren*s syndrome
13. Subject with sinus disease, specifically acute sinusitis, chronic sinusitis, or allergic fungal sinusitis
14. History of nasal disorders (e.g. polyposis, recurrent epistaxis (> 1 nose bleed per month), abuse of nasal decongestants or sleep apnea
15. Subject using any form of intranasal medication delivery, specifically nasal corticosteroids and oxymetazoline containing nasal sprays (e.g. Dristan 12-Hour Nasal Spray)
16. History of asthma and/ or on-going asthma treatment
17. Regular drinkers of more than three (3) units of alcohol daily (1 unit = 300 ml beer, 1 glass wine, 1 measure spirit), or consumption of alcohol within 48 hours prior to dosing and during the study.
18. Volunteer demonstrating a positive test for alcohol consumption (using breath alcohol analyzer) at the time of check-in during the admission periods.
19. History of, or current evidence of, abuse of alcohol or any drug substance, licit or illicit
20. Volunteers demonstrating a positive test for drugs of abuse in urine (Opiates, Benzodiazepines, Amphetamines, THC and cocaine) at the time of check-in during admission periods
21. Inaccessibility of veins in left and right arm
22. Receipt of any prescription drug therapy within four weeks of the first admission period.
23. Difficulty in abstaining from OTC medication (except occasional paracetamol/aspirin) for the duration of the study
24. Volunteers demonstrating serum PSA >= 4ng/ml
25. Participation in any other research study during the conduct of this study or 30 days prior to the initiation of this study.
26. Blood donation (usually 550 ml) at any time during this study, or within the 12 week period before the start of this study.

Study design

Design

Study type: Interventional

Masking:	Open (masking not used)
Control:	Uncontrolled
Primary purpose:	Treatment

Recruitment

NL

Recruitment status:	Recruitment stopped
Start date (anticipated):	20-06-2011
Enrollment:	15
Type:	Actual

Medical products/devices used

Product type:	Medicine
Brand name:	Testosterone intranasal gel 4.0%
Generic name:	Testosterone intranasal gel 4.0%
Product type:	Medicine
Brand name:	Testosterone intranasal gel 8.0%
Generic name:	Testosterone intranasal gel 8.0%

Ethics review

Approved WMO

Application type:	First submission
Review commission:	BEBO: Stichting Beoordeling Ethiek Bio-Medisch Onderzoek (Assen)

Study registrations

Followed up by the following (possibly more current) registration

No registrations found.

Other (possibly less up-to-date) registrations in this register

No registrations found.

In other registers

Register	ID
EudraCT	EUCTR2011-000896-14-NL
CCMO	NL36054.056.11