

Adding testosterone to hormonal therapy could improve sexual function and general well-being among women during climacteric. We evaluated the effectiveness of testosterone undecanoate on sexual function in postmenopausal women utilizing the standardized questionnaire FSFI score. Postmenopausal women with sexual complaints and Female Sexual Function Index (FSFI) ≤ 26.5 were enrolled in to .



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Safety Aspects and Rational Use of Testosterone Undecanoate in the .

Safety Aspects and Rational Use of Testosterone Undecanoate in the Treatment of Testosterone Deficiency: Clinical Insights

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Abstract: Testosterone deficiency is diagnosed by a serum total testosterone level below 300 ng/dL, in combination with symptoms such as decreased energy and libido. These symptoms can be ameliorated by restoring serum testosterone to the physiologic range with testosterone therapy (TT). There are numerous forms of testosterone therapy, such as injectable, transdermal, nasal, and subcutaneous applications. There are also multiple formulations of injection, such as testosterone cypionate, testosterone enanthate, and testosterone undecanoate. Testosterone undecanoate (TU) is a long-acting ester formulation of testosterone that can be provided in an injectable or oral form. Oral testosterone undecanoate is marketed as Andriol, Jatanzo, Tlando, and Kyzatrex. Oral TU provides a convenient option for many patients, which may increase compliance with TT. Injectable testosterone undecanoate is marketed as Aved and Nebido. Injectable TT remains the most cost-effective therapeutic option and is appropriate for most patients as an initial therapy. This review describes the pharmacokinetics of these testosterone undecanoate products and provides a guide for prescribers using these medications. While many forms of testosterone are appropriate for TT, a patient-centered discussion focused on goals of care should best guide physician prescription of these medications.

Keywords: testosterone, testosterone deficiency, testosterone therapy, hypogonadism in male

Introduction

Testosterone deficiency is recognized as the deficiency of testosterone (T) production by the testes. This deficiency results in a pathologically low systemic testosterone concentration, as well as the concentrations of its bioactive metabolites dihydrotestosterone (DHT) and estradiol (E2).¹ Testosterone deficiency may affect up to 10% of men worldwide and 40% of men over the age of 45.^{2,3} Signs and symptoms of testosterone deficiency include characteristic physical changes such as regression of secondary sex characteristics, decreased lean muscle mass, and cognitive changes.³⁻⁵ The restoration of serum testosterone to physiologic, or eugonadal, levels has been shown to alleviate some of the symptoms of testosterone deficiency and provide significant improvement in quality of life.⁶ Multiple treatment options for testosterone deficiency exist, most commonly consisting of testosterone therapy (TT) with exogenous testosterone. Specifically, testosterone undecanoate (TU) is an 11-carbon long androgen ester derivative of testosterone that comes in an injectable or oral formulation. Recently, we have seen a rapid increase in the available FDA-approved TU forms of T. Herein, we present a focused review on testosterone undecanoate and its various formulations, as well as a practical guide for prescribers.

What is Testosterone Deficiency

As per American Urologic Association guidelines, testosterone deficiency is diagnosed with a serum testosterone level below 300 ng/dL, on two separate occasions, with both conducted in the early morning in combination with symptoms.⁷

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Absorption. Testosterone undecanoate is a lipophilic molecule that is absorbed into the intestinal lymphatic system after oral administration. It is then released into the general blood circulation by the thoracic duct, thereby bypassing the portal circulation and first-pass metabolism in the liver, 2,8 unlike endogenous testosterone. 3 Following oral administration of 237 mg twice per day in .

PDF Highlights of Prescribing Information

INDICATIONS AND USAGE

Testosterone Undecanoate (TU) is indicated for the treatment of male hypogonadism in men with laboratory-confirmed hypogonadism and symptoms. See full prescribing information for **TESTOSTERONE UNDECANOATE**.

TESTOSTERONE UNDECANOATE (TU) Extended Release Tablets

Each 100 mg Extended Release Tablet contains 100 mg of testosterone undecanoate.

WARNING: SUICIDAL THOUGHTS AND BEHAVIORS

See full prescribing information for complete prescribing information. Depression, suicidal thoughts, and suicide risk may be increased with testosterone therapy. Monitor patients for changes in mood, behavior, and thoughts, especially suicidal thoughts, and changes in behavior. If these symptoms occur, discontinue testosterone therapy and contact your healthcare provider. (See full prescribing information for more information.)

CONTRAINDICATIONS

Testosterone Undecanoate (TU) is contraindicated in men with prostate cancer, a history of prostate cancer, or a PSA level greater than 10 ng/mL. (See full prescribing information for more information.)

ADVERSE REACTIONS

See full prescribing information for complete prescribing information. The most common adverse reactions (incidence of 1% or more) in men with hypogonadism treated with testosterone undecanoate (TU) are: acne, increased red blood cell count, increased hematocrit, increased hemoglobin, increased testosterone, increased estradiol, increased estradiol to testosterone ratio, increased triglycerides, increased low-density lipoprotein cholesterol, increased high-density lipoprotein cholesterol, increased total cholesterol, increased prostate-specific antigen, increased prostate volume, increased prostate weight, increased prostate density, increased prostate cancer risk, increased risk of benign prostatic hyperplasia, increased risk of prostate cancer, increased risk of cardiovascular disease, increased risk of stroke, increased risk of myocardial infarction, increased risk of deep vein thrombosis, increased risk of pulmonary embolism, increased risk of thrombotic thrombocytopenic purpura, increased risk of hemolytic uremic syndrome, increased risk of acute kidney injury, increased risk of chronic kidney disease, increased risk of liver disease, increased risk of gallbladder disease, increased risk of pancreatitis, increased risk of hyperkalemia, increased risk of hypokalemia, increased risk of hyponatremia, increased risk of dehydration, increased risk of heatstroke, increased risk of sunburn, increased risk of skin reactions, increased risk of alopecia, increased risk of gynecomastia, increased risk of breast tenderness, increased risk of breast pain, increased risk of breast cancer, increased risk of gynecomastia, increased risk of breast pain, increased risk of breast cancer, increased risk of gynecomastia, increased risk of breast pain, increased risk of breast cancer.

DRUGS AND ADMINISTRATION

Drug	Starting Dose	Starting Dose
Testosterone Undecanoate (TU)	100 mg	100 mg
Testosterone Undecanoate (TU)	100 mg	100 mg
Testosterone Undecanoate (TU)	100 mg	100 mg

CONTRAINDICATIONS

See full prescribing information for complete prescribing information.

ADVERSE REACTIONS

See full prescribing information for complete prescribing information.

DRUGS AND ADMINISTRATION

See full prescribing information for complete prescribing information.

HOW TO USE TESTOSTERONE UNDECANOATE

See full prescribing information for complete prescribing information.

Male hypogonadism, or androgen deficiency, is diagnosed when unequivocally low serum testosterone (T) levels [typically <300 ng/dL (~10 nmol/L)] and consistent signs and symptoms are present (). Regardless of the etiology, several signs and symptoms often can be managed with exogenous T replacement (). Testosterone replacement therapy (TRT) is administered by various delivery routes including .

Exploring the efficacy of testosterone undecanoate in male children .

Exploring the efficacy of testosterone undecanoate in male children with 5 α -reductase deficiency

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ABSTRACT

Importance: Children with 5 α -reductase deficiency (5 α -RD) and hypospadias present with micropenis, which makes it difficult to obtain sufficient tissue for urethral reconstruction.

Objective: We investigated the therapeutic effects of oral testosterone undecanoate and established a standard androgen treatment protocol for patients with 5 α -RD with micropenis.

Methods: Patients with 5 α -RD were treated with oral testosterone undecanoate for 3 months as a course. All patients were treated with no more than 3 courses. If the penile length (PL) reached 2.5 cm (the minimum criterion for surgery) or greater than or equal to -2.5 standard deviations (SDs) (lower limit of normal), testosterone undecanoate was considered to be effective.

Results: The median age of 90 patients with 5 α -RD was 1.7 years (0.9, 3.1 years). The baseline PL was 1.9 ± 0.6 cm before treatment. At the end of the first course, the PL of 63 patients (70%) reached 2.5 cm, and 49 patients (54%) reached greater than or equal to -2.5 SDs. After two treatment courses, the PL of 81 patients (90%) reached 2.5 cm, and 90 patients (100%) reached greater than or equal to -2.5 SDs. After three courses, the PL of all patients reached 2.5 cm, and all patients reached a PL greater than or equal to -2.5 SDs. No abnormal increase was observed in height-SD score, weight-SD score, or ratio of bone age to chronological age during the 1–3-year follow-up.

Interpretation: After 3–9 months of treatment, PL increased to the target length. No severe adverse reactions were observed during follow-up. Testosterone undecanoate was safe and effective in children with 5 α -RD with micropenis.

KEYWORDS

5 α -reductase deficiency, Micropenis, Testosterone undecanoate, Treatment, Penile

INTRODUCTION

A deficiency in 5 α -reductase (5 α -RD) is an important cause of 46, XY disorders of sex development (DSD) and is a rare autosomal recessive disorder caused by

mutations in the *SRD5A2* gene encoding 5 α -reductase type 2, resulting in defective conversion of testosterone to dihydrotestosterone (DHT). DHT plays a crucial role in normal male sexual development during embryogenesis and is responsible for triggering masculinization of the

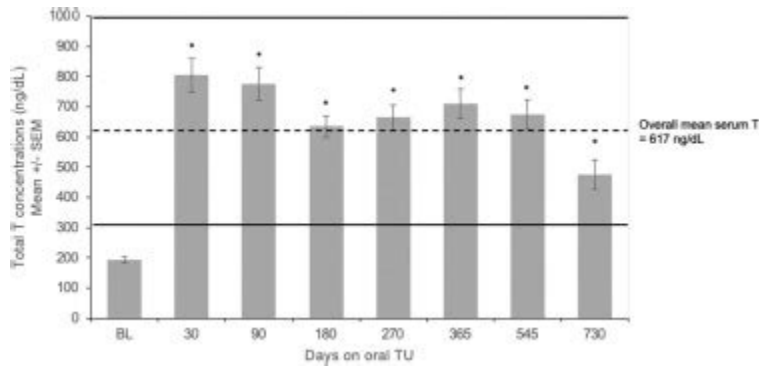
DOI: 10.1002/ped4.12302

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Testosterone Undecanoate 40 mg Capsule Manufactured by Zydus Cadila Contains Testosterone
Description Testosterone Undecanoate 40 mg Capsule consists of a male sex hormone called Testosterone, which plays a crucial role in masculine growth, increasing muscle mass, boosting sexual drive, regulating fertility, etc.

Two-Year Analysis of a New Oral Testosterone Undecanoate (TU . - PubMed



Accordingly, injectable testosterone ester products have a duration of action ranging from short-acting (propionate) requiring one or two injections per week, medium acting (enanthate, cypionate, mixed esters) requiring injections every 2 weeks and a long-acting depot testosterone undecanoate (TU) typically administered at 12-week intervals (1).

New Oral Testosterone Undecanoate Formulation Restores Testosterone to .

Testosterone Undecanoate Oral Buy - Cernos Capsules 40 mg 30 caps



Cernos is used to replace the body's natural sex hormone testosterone when not enough is made by the body. Testosterone Undecanoate is the active ingredient in Cernos.

- Product: Cernos Capsules 40 mg
- Category: Oral Steroids
- Ingredients: Testosterone Undecanoate
- Manufacture: San Pharma
- Qty: 30 caps
- Item price: \$3.45

→ CLICK TO VISIT OUR ONLINE SHOP ←

Home / Oral Steroids / Buy Testosterone undecanoate in Australia - Andriol Testocaps cash on delivery. Buy Testosterone undecanoate in Australia - Andriol Testocaps cash on delivery \$ 54.00. manufacturer: Heald Pharma substance: Testosterone undecanoate package: 40mg (30 capsules)
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 Video made by me ! #vocado #kourneykarlanbian #padding #food #breakfast #healthylifestyle #healthyfood #healthy #gym #workout #recipe #poosh #tiktok #kim #addisoneze

<http://best-nutribol-ke-suk-over.blogspot.com/2020/09/nutribol-40mg-kapic-nutribol-10-mg.html>

Andriol History and Overview Andriol, which is the brand name and trade name for Testosterone Undecanoate, is an oral Testosterone product. It is oil-based and manufactured in the form of gel capsules. It is vastly different from other oral anabolic steroids in a few different ways. First and foremost, other oral anabolic steroid products are almost always C-17 alpha alkylated (also known as ...
 #fitnessmodel #fitnessgirl #fitnesslife #fitnesstrainer #fitnessmotivation #fitnesswith #fitnesstrainer #fitnessmotivation #fitnessmodel #fitnessgirl #fitnesslife #fitnessmodel

testosterone undecanoate Company: Grunenthal Ltd See contact details ATC code: G03BA03 About Medicine Prescription only medicine Healthcare Professionals (SmPC) Patient Leaflet (PIL) Risk

Materials The Patient Information Leaflet (PIL) is the leaflet included in the pack with a medicine. Last updated on emc: 07 Mar 2023

Optimal injection interval for testosterone undecanoate treatment of .

Page 1 of 20

Accepted Manuscript published as EC-21-0109.R2. Accepted for publication: 16-Jun-2021

Optimal Injection Interval for Testosterone Undecanoate Treatment of Hypogonadal and Transgender Men

Short title: Injectable Testosterone Undecanoate

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Disclaimers: DJH has received institutional (but no personal) funding for investigator-initiated testosterone pharmacology studies (Besins, Lawley) but not for this study. He has served as an expert witness for antidoping and professional standards tribunals and for testosterone litigation.

No conflict of interest for other authors.

Funding: This study was partly supported by the 2019 Endocrine Society of Australia – Ferring Innovation and Clinical Excellence Award in Male Hypogonadism. The testosterone product manufacturer provided no funding for or other input into this work.

Aveed (testosterone undecanoate) is a testosterone replacement that acts like the natural sex hormone. Testosterone is responsible for the development and maintenance of many male features. Aveed (testosterone undecanoate) works by adding or replacing testosterone in the body to normal and healthy levels.

Testosterone Undecanoate | C₃₀H₄₈O₃ | CID 65157 - PubChem



In healthy men, the plasma concentration of DHT increases with the use of testosterone undecanoate. 7 , 8 Testosterone and DHT act on androgen receptors in organs, thus playing an important role in promoting male growth and development of male organs and secondary sexual characteristics, as well as sustaining sexual desire. 9 , 10 Oral .

Study finds oral testosterone therapy undecanoate is effective, with no .

Apply to this Phase 3 clinical trial
treating Hypogonadism: Oral
testosterone undecanoate, LPCN 1021
for Hypogonadism

A new oral testosterone undecanoate therapy comes of age for the treatment of hypogonadal men - PMC
Journal List Ther Adv Urol v. 12; Jan-Dec 2020 PMC7328356 As a library, NLM provides access to
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A new oral testosterone undecanoate therapy comes of age for the .



A new oral testosterone undecanoate therapy comes of age for the treatment of hypogonadal men

Ronald S. Swerdloff and Robert E. Dudley

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Abstract

Background: A novel formulation of oral testosterone undecanoate (TU) was studied in a long- and short-term phase III trial to evaluate safety and efficacy.

Methods: Hypogonadal men [age 18–65 years; two morning serum testosterone (T) <300 ng/dl with signs/symptoms] were recruited into a 365 day (trial I) or 105 day (trial II), randomized, multicenter trial. Patients were randomized 1:1 to oral TU (n = 161) or T-gel (n = 160) in trial I, and 3:1 to oral TU, twice daily (BID) JATENZO® (n = 166) or a topical T product [Axiron® (n = 56)] in trial II. Dose adjustments were based on average T concentrations (Cavg). Efficacy was assessed based on T levels, body composition and bone density. Safety was assessed by standard clinical measures.

Results: Oral TU efficacy (% of patients with eugonadal T Cavg) was 84% [serum Cavg = 428 ± 343 ng/dl] and 87% [serum T equivalent Cavg = 489 ± 155 ng/dl] in trials I and II, respectively. Oral TU significantly (p < 0.0001) improved all Psychosexual Daily Questionnaire parameters in trials I and II. In trial I, lean mass increased 3.2 ± 2.7 kg and fat decreased by 2.4 ± 3.6 kg (both p < 0.0001) and bone density improved in hip (+0.012 ± 0.0225 g/cm²) and spine (+0.018 ± 0.0422 g/cm²) after 365 days (both p < 0.0001). Oral TU-associated adverse effects were consistent with other T-replacement therapies but oral TU patients experienced a greater number of mild gastrointestinal adverse effects. Oral TU subjects in both studies exhibited an increase in mean systolic blood pressure of about 3–5 mmHg. Oral TU was not associated with liver toxicity nor did it cause an elevation in high-sensitivity C-reactive protein or lipoprotein-associated phospholipase A₂ (cardiovascular safety biomarkers) after 365 days of therapy.

Conclusion: A new oral TU formulation was safe and effective and represents a significant therapeutic advance for the treatment of appropriate hypogonadal men.

Keywords: male hypogonadism, testosterone, testosterone undecanoate

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Introduction

Testosterone (T)-replacement therapy (TRT) has evolved over time to provide healthcare providers and their hypogonadal patients with numerous treatment options. Beginning with early use of implanted T-pellets to injectable T-esters to oral methyltestosterone to a first-generation oral T-undecanoate (TU) product to scrotal and non-scrotal T patches and then to topical T-gels, the number of TRT choices

continues to evolve.¹ More recent additions to the TRT armamentarium include a buccal patch, a long-acting T-undecanoate injection (intramuscular) product, a short-acting T-enanthate injection (e.g. 7 days; subcutaneous) and a nasal T-gel. Each of these delivery routes are associated with well-known drawbacks, including pain of injection, dermal irritation, T transference and potentially serious liver toxicity (e.g. oral methyltestosterone). In addition, dose adjustment to

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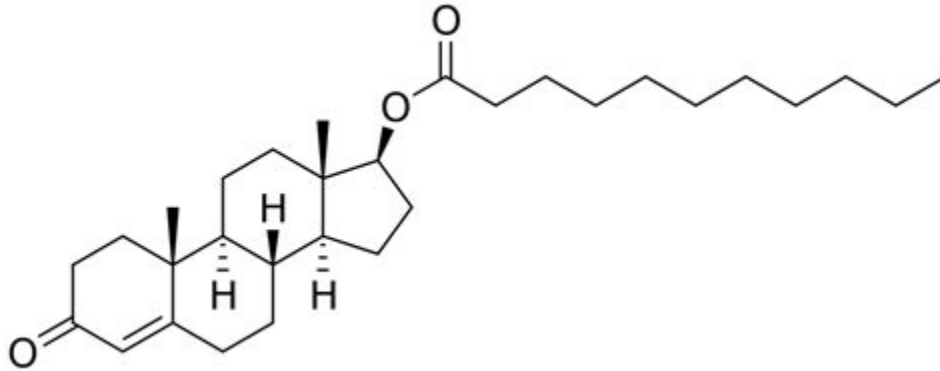
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How Jatenzo (testosterone undecanoate) works. Testosterone is a hormone that your body makes. It's the main sex hormone in males and is responsible for development of male sex organs. Testosterone also plays a role in maintaining other body functions, such as muscle growth, sex drive, and sperm production.

Testosterone undecanoate - Wikipedia



Medical dosage Testosterone undecanoate is used in androgen replacement therapy in men, including trans-men. It is specifically approved only for the treatment of hypogonadism. [24] [25] [26] As an intramuscular injection, it is administered at a dosage of 1,000 mg (4 mL) once every 3 months. [14]

Testosterone Undecanoate Cycle Guide - Steroid Cycles

Weeks	Stanozolol	Nan D	Clomid
1	20mg/day	200mg/week	
2	30mg/day	200mg/week	
3	40mg/day	200mg/week	
4	50mg/day	400mg/week	
5	50mg/day	400mg/week	
6	40mg/day	200mg/week	
7	30mg/day		
8	20mg/day		
9			100mg/day
10			50mg/day
11			50mg/day
12			50mg/day
Total	200tabs	8ml	40tabs

Testosterone undecanoate is a form of testosterone steroid containing a larger ester (undecanoate) than many other types. It is available in both oral and injectable forms, and there are different brand names for each. Testosterone Undecanoate Cycle

Testosterone undecanoate | Drugs | BNF | NICE



Testosterone undecanoate (T undecanoate), mentioned as having favorable pharmacokinetics in the Development of methods of male contraception by world health organization (WHO), is a testosterone drug with the longest half-life, approved in more than 100 countries, including the approval by food and drug administration (FDA) in 2014; it is widely used in clinical trials for the treatment of .

Jatenzo (testosterone undecanoate): Uses, Side Effects, Dosage . - GoodRx



An industry-supported study of an oral testosterone replacement therapy (TRT), testosterone undecanoate (TU, Jatenzo) finds it is an effective, long-term treatment for men with low testosterone levels, with no evidence of liver toxicity. The findings are being presented virtually at ENDO 2021, the Endocrine Society's annual meeting.

Comparative application of testosterone undecanoate and/or testosterone .

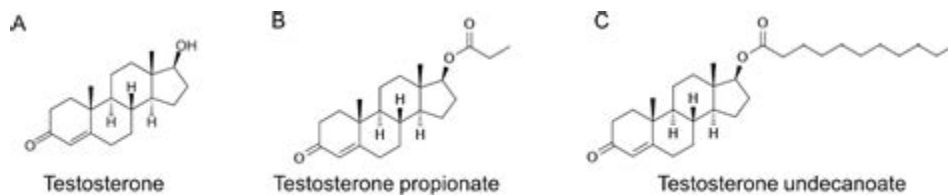


Fig 1 Structure of testosterone (A), testosterone propionate (B), and testosterone undecanoate (C)

Testosterone undecanoate (TU) is a long-acting ester formulation of testosterone that can be provided in an injectable or oral form. Oral testosterone undecanoate is marketed as Andriol, Jatenzo, Tlando, and Kyzatrex. Oral TU provides a convenient option for many patients, which may increase compliance with TT.

Effectiveness of a low dose testosterone undecanoate to improve sexual .

Tungmunsakulchai et al. *BMC Women's Health* (2015) 15:113
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BMC Women's Health

RESEARCH ARTICLE

Open Access

Effectiveness of a low dose testosterone undecanoate to improve sexual function in postmenopausal women



Reuthairat Tungmunsakulchai^{1*}, Sukanya Chaikittisilpa¹, Thiti Snaboon², Krasean Panyakhamleerd¹, Unnop Jaisamram¹ and Nimit Taechakraichana¹

Abstract

Background: Adding testosterone to hormonal therapy could improve sexual function and general well-being among women during climacteric. We evaluated the effectiveness of testosterone undecanoate on sexual function in postmenopausal women utilizing the standardized questionnaire FSFI score.

Methods: Postmenopausal women with sexual complaints and Female Sexual Function Index (FSFI) ≤ 26.5 were enrolled in this randomized, double-blinded, placebo-controlled trial. Participants were randomly assigned to 8-week treatment with either oral testosterone undecanoate 40 mg or placebo twice weekly with daily oral estrogen. The FSFI scores before and after treatment were compared to assess any improvement of sexual function.

Results: Seventy women were recruited of which each group had 35 participants. The baseline characteristics and baseline FSFI scores were comparable between both groups. After 8 weeks of treatment, the FSFI scores significantly improved in both groups when compared to the baseline but the FSFI scores from the testosterone group were significantly higher than in the placebo group post-treatment (28.6 ± 3.6 , 25.3 ± 6.7 , respectively, $p = 0.04$). There was no difference in adverse effect between the two groups.

Conclusions: The twice weekly addition of testosterone undecanoate to daily oral estrogen was associated with a significant improvement in sexual function among postmenopausal women than the use of the estrogen alone.

Trial registration: ClinicalTrials.gov Identifier NCT01724658 (February 17, 2012).

Keywords: Postmenopausal women, Testosterone, Female sexual dysfunction

Background

Among sexually active menopausal women, sexual dysfunction can significantly affect their quality of life. A previous Thai study reported that up to 82 % of sexually active, postmenopausal women had sexual dysfunction. This was based on the overall Female Sexual Function Index (FSFI) score of ≤ 26.5 among women who had a positive attitude towards sex [1].

Several studies found that adding testosterone to hormonal therapy could improve sexual function and general well-being among women during climacteric [2–12].

Significant improvement was seen by some variables studies when surgical menopausal women were administered 40 mg oral testosterone undecanoate daily together with their estrogen therapy comparable to estrogen alone [13].

For several decades, testosterone undecanoate has been used for the treatment of male hypogonadism. Based on a theoretical assumption that only 6 % of a testosterone dose in male (testosterone undecanoate 120 mg/day) is sufficient for testosterone supplement for females which would correspond to approximately 50 mg per week [14]. However, testosterone undecanoate 50 mg was not available in Thailand when we did the pilot study so we used a single dose of 40 mg capsule and assessed the level of total testosterone and free androgen index after 72 h. The serum levels of total and

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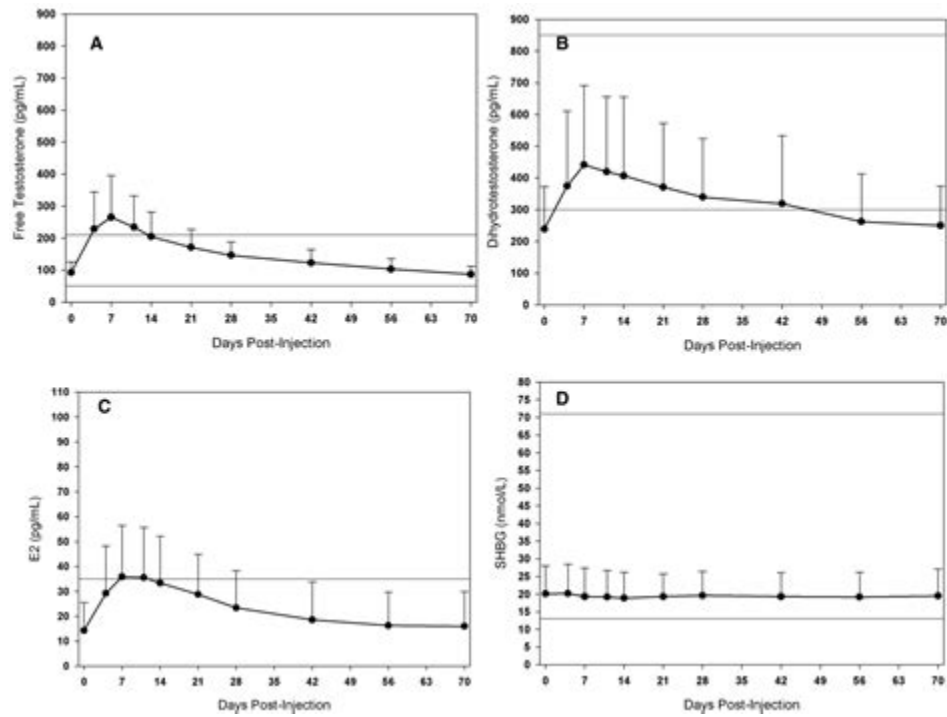
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Testosterone undecanoate Navigate to section Indications and dose Contra-indications Cautions Interactions Side-effects Pregnancy Breast feeding Hepatic impairment Renal impairment Monitoring requirements Patient and carer advice Medicinal forms Other drugs in class Interactions Indications and dose Androgen deficiency By mouth Adult

Pharmacokinetics and Safety of Long-Acting Testosterone Undecanoate .



Testosterone undecanoate is the ester prodrug of [testosterone] and has a mid-chain fatty acid at the carbon 17 β position. It was developed via fatty acid esterification of testosterone in order to achieve orally administer testosterone.

Testosterone Undecanoate Oral: Uses, Side Effects, Interactions . - WebMD



Background: Long-term data evaluating the efficacy and safety of oral testosterone undecanoate (oral TU; JATENZO) in adult hypogonadal men provides important information for healthcare professionals who prescribe testosterone replacement therapy (TRT). Aim: To determine the efficacy and safety of long-term oral TU therapy, including its impact on total testosterone (T) levels and psychosexual .

Nebido 1000 mg/4 ml solution for injection - medicines



ABSTRACT: Currently available testosterone (T) injections in the United States are administered at 2-3 weekly intervals. Less frequent injections with favorable serum T pharmacokinetics would benefit hypogonadal men. The objective of this study is to assess the pharmacokinetics of long-acting testosterone undecanoate (TU) intramuscular (IM) injection in hypogonadal men.

Nebido 1000 mg/4 ml solution for injection - medicines



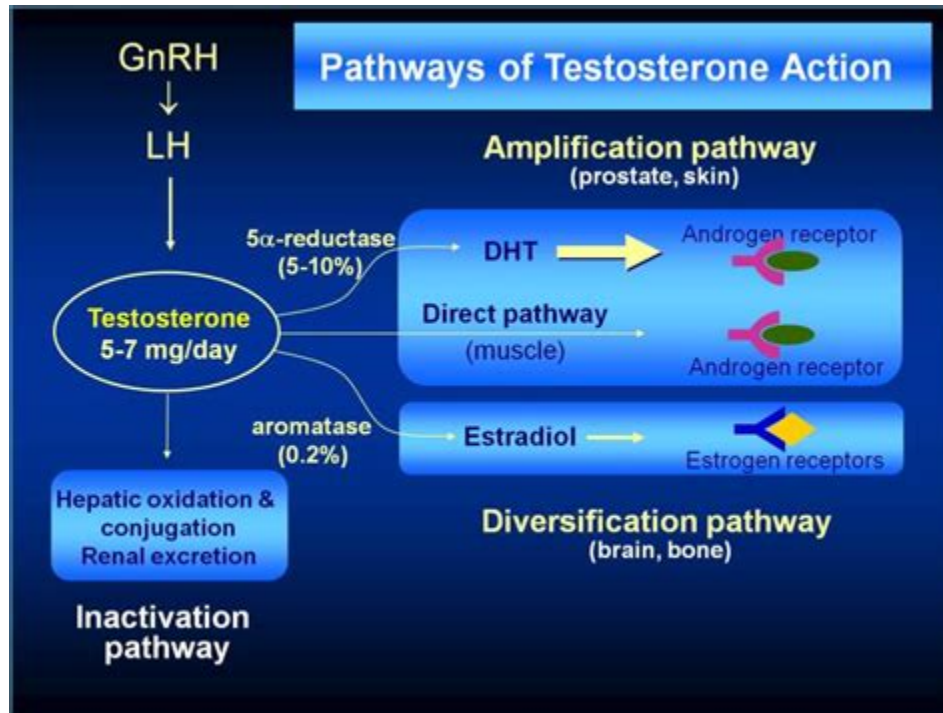
Aveed is a clear, yellowish, sterile oily solution containing testosterone undecanoate, a testosterone ester, for intramuscular injection. Each single use vial contains 3 mL of 250 mg/mL testosterone undecanoate solution in a mixture of 1500 mg of benzyl benzoate and 885 mg of refined castor oil.

Testosterone Undecanoate 40 mg Capsule - Practo



testosterone undecanoate Company: Grunenthal Ltd See contact details ATC code: G03BA03 About Medicine Prescription only medicine Healthcare Professionals (SmPC) Patient Leaflet (PIL) Risk Materials This information is for use by healthcare professionals Last updated on emc: 08 Mar 2023 Quick Links

Testosterone undecanoate: Uses, Interactions, Mechanism of Action .



Get medical help right away if you have any very serious side effects, including: shortness of breath/rapid breathing, chest/jaw/left arm pain, unusual sweating, confusion, sudden dizziness /.

- <https://www.mixily.com/event/7126570315682615229>
- <https://publiclab.org/notes/print/49036>
- <https://blog.libero.it/wp/leshanikolaevgb/wp-content/uploads/sites/88233/2024/01/Why-Did-My-Pre-Workout-Get-Clumpy.pdf>