



This test offers the opportunity to assess your knowledge and retention of the information presented in the articles in this issue. Physicians who complete the quiz will receive a statement from Dalhousie University, Continuing Medical Education (CME) indicating their participation and their score.

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Education of the United States to offer continuing medical education to physicians.

Where applicable, physicians may report their participation in this CME activity to the appropriate professional and health organizations.

Each quiz may be submitted only once for consideration and must be submitted within six months after the date of issue.

Correct answers will be published in the journal six months after the quiz appears.

SELECT THE BEST ANSWER(S) FOR EACH OF THE FOLLOWING:

1. Decreased or loss of olfactory function is estimated to be present in what percentage of the American population under the age of 60?

- a) 1%
- b) 4%
- c) 8%
- d) 10%

2. Smell receptors are located in the olfactory neuroepithelium. This is found:

- a) Over the cribriform plate
- b) The inferior turbinate
- c) The superior septum
- d) A and C
- e) All of the above

3. The olfactory system is unique amongst the sensory symptoms in that it sends fibres directly to the cortex without synapsing in the thalamus.

- a) True
- b) False

4. Which cranial nerve mediates somatosensory overtones of odorants, such as a burning, cooling, sharpness and irritation?

- a) Cranial Nerve V
- b) Cranial Nerve IX
- c) Cranial Nerve X

5. Which of the following is (are) among the most common causes of anosmia or hyposomia?

- a) Head trauma
- b) Postviral upper respiratory tract infections
- c) Pharyngitis
- d) A and B
- e) All of the above

6. The most common and treatable cause of olfactory dysfunction is:

- a) Post-upper respiratory tract infection
- b) Nasal sinusitis +/- polyposis
- c) Head trauma

(Olfactory Dysfunction; page 55)

CME Credit Quiz

7. *In the U.S., the incidence of sarcoidosis is greater in the black population compared with Caucasians.*

- a) True
- b) False

8. *Sarcoidosis is more severe in the black population.*

- a) True
- b) False

9. *Arthropathy is present in what percentage of sarcoid patients?*

- a) 10%
- b) 18%
- c) 25%
- d) 30%

10. *The chronic form of sarcoidosis can affect which of the following:*

- a) Lungs
- b) Hands
- c) Knees
- d) Ankles
- e) All of the above

11. *The first-line treatment of sarcoidosis is:*

- a) Methotrexate
- b) Corticosteroids
- c) Infliximab

(Sarcoidosis; page 73)

Please indicate your answers on the attached quiz reply form and mail to:
Dalhousie University
Continuing Medical Education
5849 University Avenue
Halifax, Nova Scotia B3H 4H7

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MERCK FROSST CANADA LTD.

ANDRIOL™

(testosterone undecanoate)
40 mg capsules

PHARMACOLOGICAL CLASSIFICATION

Androgen

INDICATIONS AND CLINICAL USE

Andriol (testosterone undecanoate) is indicated for replacement therapy in males in conditions associated with symptoms of deficiency or absence of endogenous testosterone: for the management of congenital or acquired primary hypogonadism and hypogonadotropic hypogonadism; to develop and maintain secondary sexual characteristics in males with testosterone deficiency. Andriol is also indicated to stimulate puberty in carefully selected males with clearly delayed puberty not secondary to pathological disorder. It is also used as replacement therapy in impotence or for male climacteric symptoms when the conditions are due to a measured or documented androgen deficiency.

CONTRAINDICATIONS

Known hypersensitivity to any of the components of the product; males with carcinoma of the breast; males with known or suspected carcinoma of the prostate gland; patients with serious cardiac, hepatic or renal disease; hypercalcemia; impaired liver function; prepubertal males; patients easily stimulated sexually. Androgens are also contraindicated in patients with nephrosis or the nephrotic phase of nephritis.

WARNINGS

Hypercalcemia may occur in immobilized patients and in patients with breast cancer. If this occurs, the drug should be discontinued. Prolonged use of high doses of androgens (principally the 17-alpha-alkyl-androgens) has been associated with development of hepatic adenomas, hepatocellular carcinoma and peliosis hepatis - all potentially life-threatening complications. Cholestatic hepatitis and jaundice may occur with 17-alpha-alkyl-androgens. Should this occur, the drug should be discontinued. This is reversible with discontinuation of the drug. Geriatric patients treated with androgens may be at an increased risk of developing prostatic hypertrophy and prostatic carcinoma although conclusive evidence to support this concept is lacking. Edema, with or without congestive heart failure, may be a serious complication in patients with pre-existing cardiac, renal or hepatic disease. In addition to discontinuation of the drug, diuretic therapy may be required. Gynecomastia may develop and occasionally persists in patients being treated for hypogonadism. Androgen therapy should be used cautiously in males with delayed puberty. Androgens can accelerate bone maturation without producing compensatory gain in linear growth. The effect on bone maturation should be monitored by assessing bone age of the wrist and hand every six months. These adverse effects may result in compromised adult stature. The younger the child the greater the risk of compromising final mature height.

PRECAUTIONS

Patients with benign prostatic hypertrophy may develop acute urethral obstruction. Priapism or excessive sexual stimulation may develop. Oligospermia may occur after prolonged administration or excessive dosage. If any of these effects appear, the androgen should be stopped and if restarted, a lower dosage should be utilized.

Drug Interactions

Androgens may increase sensitivity to oral anticoagulants. Dosage of the anticoagulant may require reduction in order to maintain satisfactory therapeutic hypoprothrombinemia. Patients receiving oral anticoagulant therapy require close monitoring, especially when androgens are started and stopped. In diabetic patients, the metabolic effects of androgens may decrease blood glucose and, therefore, insulin requirements. May potentiate cyclosporine and increase risk of nephrotoxicity. Concurrent use of somatrem or somatotropin with androgens in prepubertal males may accelerate epiphyseal maturation. Increased serum oxyphenbutazone concentrations have been reported with concurrent administration of androgen and oxyphenbutazone. May interact with adrenocorticoids; glucocorticoids, especially with significant mineralocorticoid activity; mineralocorticoids; or corticotropins, especially prolonged use: sodium-containing medications or foods.

Laboratory Test Interference:

Alterations may occur in the following clinical laboratory tests: metyrapone test, fasting blood sugar (FBS) and glucose tolerance test, thyroid function tests (decrease in thyroxine-binding capacity and radioactive iodine uptake, and an increase in T3 uptake by the red blood cells or resin; free thyroxine levels remain unchanged); electrolytes (retention of sodium chloride, water, potassium, calcium, and inorganic phosphates), blood coagulation tests (suppression of clotting factors II, V, VII, and X), alteration to liver function tests, increased serum cholesterol and miscellaneous laboratory tests (decreased creatinine and creatine excretion lasting up to 2 weeks after discontinuing therapy). Androgens enhance blood fibrinolytic activity and increase hematocrit and serum hemoglobin levels; effects on plasma lipids are variable. Administration of testosterone, but not the 17-alpha-alkyl substituted derivatives, elevates the level of urinary 17-ketosteroids.

Laboratory Tests

Because of the hepatotoxicity associated with the use of 17-alpha-alkylated androgens, liver function tests should be obtained periodically. Hemoglobin and hematocrit levels (to detect polycythemia) should be checked periodically in patients receiving long-term androgen administration. Serum cholesterol may increase during androgen therapy. Periodic (every 6 months) x-ray examinations of bone age should be made during treatment of prepubertal males to determine the rate of bone maturation and the effect of androgen therapy on the epiphyseal centers.

ADVERSE REACTIONS

The following adverse reactions have occurred with androgen therapy: inhibition of testicular function, testicular atrophy and oligospermia, impotence, gynecomastia, epididymitis and bladder irritability, excessive frequency and duration of penile erections, nausea, cholestatic jaundice, peliosis hepatis, polyerythemia, headache, anxiety, depression, generalized paresthesia and rarely anaphylactoid reaction. In addition, the following reactions are known to occur with anabolic steroids: increased or decreased libido, flushing of the skin, acne, habituation, excitation and sleeplessness, chills, leukopenia, and bleeding in patients on concomitant anticoagulant therapy. There have been rare reports of hepatocellular carcinoma, particularly in association with long-term therapy, in patients receiving methyltestosterone or other androgenic and anabolic steroids.

SYMPTOMS AND TREATMENT OF OVERDOSAGE

No experience with overdosage has been reported. No specific antidote is available.

DOSAGE AND ADMINISTRATION

The dosage should be adjusted according to the response of the individual patient. Usually, an initial dosage of 120-160 mg daily in two divided doses for 2-3 weeks is adequate, followed by a maintenance dosage of 40-120 mg daily. Andriol capsules are to be taken immediately after meals and swallowed without chewing.

AVAILABILITY

Each Andriol Capsule contains 40 mg of testosterone undecanoate in oleic acid. Each Andriol Capsule is an oval reddish-brown soft gelatin capsule marked D3V. Andriol 40 mg is available in bottles of 60 and 100 capsules.

Full Product monograph available upon request to physicians and pharmacists.

- 1 Tremblay, R.R., Morales, A., Canadian practice recommendations for screening, monitoring and treating men affected by andropause or partial androgen deficiency, *The Aging Male*, 1:(1998) 215-218.
- 2 Morales, A., Jeremy, P.W. et al., Andropause: A Misnomer For A True Clinical Entity, *J Urol*, Vol. 163, 705-712, March 2000.
- 3 Behre et al., Long-Term Effect of Testosterone Therapy on Bone Mineral Density in Hypogonadal Men, *Clin Endoc & Metab*, Vol. 82, No. 8, 1997.
- 4 *Andriol™ (testosterone undecanoate) Product Monograph, Organon Canada Ltd., 1992.

Organon Canada Ltd., Suite 700-200 Consilium Place,
Scarborough, Ontario M1H 3E4

