NADSAR® 40mg (Telmisartan) 20mg

Tablets U.S.P.

ناڈسار ۲۰ ملی گرام (ٹیلمیسارٹن) ۴۰ ملی گرام

ٹیبلٹس یو.ایس.پی.

QUALITATIVE AND QUANTITATIVE COMPOSITION

NADSAR Tablets U.S.P. 20mg

Each tablet contains:

Telmisartan U.S.P. 20mg

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WARNING: FETAL TOXICITY

- When pregnancy is detected, discontinue NADSAR as soon as possible
- Drugs that act directly on the renin-angiotensin system can cause injury and death to the developing fetus.

DESCRIPTION NADSAR is a non-peptide angiotensin II receptor (type AT1) antagonist. NADSAR is available as tablets for oral administration, containing 20mg or 40mg of Telmisartan.

CLINICAL PHARMACOLOGY

Mechanism of Action: Angiotensin II is formed from angiotensin I in a reaction catalyzed by angiotensin-converting enzyme (ACE, kininase II). Angiotensin II is the principal pressor agent of the renin-angiotensin system, with effects that include vasoconstriction, stimulation of synthesis and release of aldosterone, cardiac stimulation, and renal reabsorption of sodium. Telmisartan blocks the vasoconstrictor and aldosterone-secreting effects of angiotensin II by selectively blocking the binding of angiotensin II to the AT1 receptor in many tissues, such as vascular smooth muscle and the adrenal gland. Its action is therefore independent of the pathways for angiotensin II synthesis. **Pharmacokinetics:** Following oral administration, peak concentrations (Cmax) of telmisartan are reached in 0.5 to 1 hour after dosing. Food slightly reduces the bioavailability of telmisartan, with a reduction in the area under the plasma concentration-time curve (AUC) of about 6% with the 40mg tablet and about 20% after a 160mg dose. The absolute bioavailability of telmisartan is dose dependent. At 40 and 160 mg the bioavailability was 42% and 58%, respectively. The pharmacokinetics of orally administered telmisartan are nonlinear over the dose range 20 to 160 mg, with greater than proportional increases of plasma concentrations (Cmax and AUC) with increasing doses. **Distribution:** Telmisartan is highly bound to plasma proteins (>99.5%), mainly albumin and α1 - acid glycoprotein. Plasma protein binding is constant over the concentration range achieved with recommended doses. The volume of distribution for telmisartan is approximately 500 liters indicating additional tissue binding. **Metabolism:** Telmisartan is metabolized by conjugation to form a pharmacologically inactive acyl glucuronide; the glucuronide of the parent compound is the only metabolite that has been identified in human plasma and urine. After a single dose, the glucuronide represents approximately 11% of the measured radioactivity in plasma. The cytochrome P450 isoenzymes are not involved in the metabolism of telmisartan. Total plasma clearance of telmisartan is >800 mL/min. Terminal half-life and total clearance appear to be independent of dose. **Elimination:** Following either intravenous or oral administration of 14C-labeled telmisartan, most of the administered dose (>97%) was eliminated unchanged in feces via biliary excretion; only minute amounts were found in the urine (0.91% and 0.49% of total radioactivity, respectively).

INDICATIONS AND USAGE Hypertension: Treatment of essential hypertension in adults. **Cardiovascular prevention:** Reduction of cardiovascular morbidity in adults with: -manifest atherothrombotic cardiovascular disease (history of coronary heart disease, stroke, or peripheral arterial disease) or -Type 2 diabetes mellitus with documented target organ damage.

CONTRAINDICATIONS Telmisartan is contraindicated:

- In patients who are hypersensitive to telmisartan or any component of the product.
- in Second and third trimesters of pregnancy.
- in Biliary obstructive disorders
- in Severe hepatic impairment
- in Severe renal impairment

-The concomitant use of Telmisartan with aliskiren-containing products is contraindicated in patients with diabetes mellitus or renal impairment (GFR < 60 ml/min/1.73 m^2)

INTERACTIONS Aliskiren: Do not co-administer aliskiren with NADSAR in patients with diabetes. Avoid use of aliskiren with NADSAR in patients with renal impairment (GFR). **Digoxin:** When NADSAR was co-administered with digoxin, median increases in digoxin peak plasma concentration (49%) and in trough concentration (20%) were observed. Therefore, monitor digoxin levels when initiating, adjusting, and discontinuing telmisartan for the purpose of keeping the digoxin level within the therapeutic range. **Lithium:** Reversible increases in serum lithium concentrations and toxicity have been reported during concomitant administration of lithium with angiotensin II receptor antagonists including NADSAR. Therefore, monitor serum lithium levels during concomitant use. **Non-Steroidal Anti-Inflammatory Agents:** including Selective **Cyclooxygenase-2 Inhibitors (COX-2 Inhibitors):** In patients who are elderly, volume-depleted (including those on diuretic therapy), or with compromised renal function, co-administration of NSAIDs, including selective COX-2 inhibitors, with angiotensin II receptor antagonists, including telmisartan, may result in deterioration of renal function, including possible acute renal failure. These effects are usually reversible. Monitor renal function periodically in patients receiving telmisartan and NSAID therapy. The antihypertensive effect of angiotensin II receptor antagonists, including telmisartan may be attenuated by NSAIDs including selective COX-2 inhibitors. **Potassium sparing diuretics or potassium supplements:** Angiotensin II receptor antagonists such as telmisartan, attenuate diuretic induced potassium loss.Potassium sparing diuretics e.g. spironolactone eplerenone, triamterene, or amiloride, potassium supplements, or potassium containing salt substitutes may lead to a significant increase in serum potassium. **Diuretics (thiazide or loop diuretics):** Prior treatment with high dose diuretics such as furosemide (loop diuretic) and hydrochlorothiazide (thiazide diuretic) may result in volume depletion, and in a risk of hypotension when initiating therapy with telmisartan. **Corticosteroids (systemic route):** Reduction of the antihypertensive effect.

USE IN SPECIFIC POPULATION

Pregnancy: Teratogenic Effects, Pregnancy Categories C (first

trimester) and D (second and third trimesters). NADSAR can cause fetal harm when administered to a pregnant woman. When pregnancy is detected, discontinue NADSAR as soon as possible. **Lactation:** Because of the potential for serious adverse reactions in the breastfed infant including hypotension, hyperkalemia and renal impairment, advise a nursing woman not to breastfeed during treatment with NADSAR. **Pediatric Use:** Safety and effectiveness in pediatric patients have not been established. **Elderly patient:** It should be used cautiously in elderly patients. **Hepatic patient:** Monitor carefully and up titrate slowly in patients with biliary obstructive disorders or hepatic insufficiency.

WARNINGS AND PRECAUTIONS

Hypotension: In patients with an activated renin-angiotensin system, such as volume- or salt-depleted patients (e.g., those being treated with high doses of diuretics), symptomatic hypotension may occur after initiation of therapy with Telmis. **Hyperkalemia:** Hyperkalemia may occur in patients on ARBs, particularly in patients with advanced renal impairment, heart failure, on renal replacement therapy, or on potassium supplements, potassium-sparing diuretics, potassium-containing salt substitutes or other drugs that increase potassium levels. **Renal impairment and kidney transplantation:** When NADSAR is used in patients with impaired renal function, periodic monitoring of potassium and creatinine serum levels is recommended. **Intravascular hypovolaemia:** Symptomatic hypotension, especially after the first dose of NADSAR may occur in patients who are volume and/or sodium depleted by vigorous diuretic therapy, dietary salt restriction diarrhoea, or vomiting. **Dual blockade of the renin-angiotensin-aldosterone system (RAAS):** Dual blockade of RAAS through the combined use of ACE-inhibitors, angiotensin II receptor blockers or aliskiren is not recommended because it increases the risk of hypotension, hyperkalaemia and decreased renal function (including acute renal failure). ACE-inhibitors and angiotensin II receptor blockers should not be used concomitantly in patients with diabetic nephropathy. **Primary aldosteronism:** Patients with primary aldosteronism generally will not respond to antihypertensive medicinal products acting through inhibition of the reninangiotensin system. Therefore, the use of telmisartan is not recommended. **Aortic and mitral valve stenosis, obstructive hypertrophic cardiomyopathy:** As with other vasodilators, special caution is indicated in patients suffering from aortic or mitral stenosis, or obstructive hypertrophic cardiomyopathy. **Diabetic patients treated with insulin or antidiabetics:** In these patients hypoglycaemia, may occur under telmisartan treatment. **Sorbitol:** This medicinal product contains sorbitol (E420). Patients with rare hereditary problems of fructose intolerance should not take Telmis

ADVERSE EFFECTS:

Common: Arthralgia, back pain, chest pain, eczema, Diarrhea, influenza like symptoms, leg cramps, myalgia, pharyngitis, sinusitis, urinary-tract infection including cystitis **Uncommon:** Abnormal vision, anxiety, dry mouth, flatulence, increased sweating, tendinitis like symptoms vertigo, eosinophilia, thrombocytopenia, anaemia, syncope, cough, asthenia. **Rare:** Blood disorders, sepsis, bradycardia, depression, dyspnoea, eosinophilia, increase in uric acid, insomnia, pruritus, rash, tachycardia, blood creatinine phosphokinase increased, Hemoglobin decreased, hepatic enzyme increased, blood creatinine phosphokinase increased.

DOSAGE AND ADMINISTRATION

Hypertension: Dosage must be individualized. The usual starting dose of NADSAR tablets is 40 mg once a day. Blood pressure response is dose related over the range of 20 to 80 mg. Most of the antihypertensive effect is apparent within 2 weeks and maximal reduction is generally attained after 4 weeks. When additional blood pressure reduction beyond that achieved with 80mg NADSAR is required, a diuretic may be added. No initial dosage adjustment is necessary for elderly patients or patients with renal impairment, including those on hemodialysis. Patients on dialysis may develop orthostatic hypotension; their blood pressure should be closely monitored. NADSAR tablets may be administered with other antihypertensive agents. Telmis tablets may be administered with or without food. **Cardiovascular Risk Reduction:** The recommended dose of NADSAR tablets is 80mg once a day and can be administered with or without food. It is not known whether doses lower than 80mg of telmisartan are effective in reducing the risk of cardiovascular morbidity and mortality. When initiating Telmis therapy for cardiovascular risk reduction, monitoring of blood pressure is recommended, and if appropriate, adjustment of medications that lower blood pressure may be necessary. **Over dosage:** Limited data are available with regard to overdosage in humans. The most likely manifestation of overdosage with NADSAR tablets would be hypotension, dizziness and tachycardia; bradycardia could occur from parasympathetic (vagal) stimulation. If symptomatic hypotension should occur, supportive treatment should be instituted. Telmisartan is not removed by hemodialysis.

INSTRUCTIONS

Dosage as directed by the physician. Store at 20°C-25°C, Excursions permitted to 15°C to 30°C. Protect from heat, light and moisture.
Keep all medicines out of the reach of children.

PRESENTATION

NADSAR (Telmisartan) Tablets U.S.P. 20mg are available in Alu-Alu blister pack of 1x10's.
NADSAR (Telmisartan) Tablets U.S.P. 40mg are available in Alu-Alu blister pack of 1x10's.

علامات/طریقہ استعمال

ناڈسار ٹیبلٹس ہائی بلڈپریشر اور امراض قلب کے علاج کے لئے تجویز کردہ ہے۔
ناڈسار ٹیبلٹس معالج کی ہدایت کے مطابق استعمال کریں۔

مضر اثرات جوڑوں کا درد، کمر درد، سینے کا درد، اگزیما، دست، غیر نجاتیں، سانس کا سانس۔

احتیاطی تدابیر حاملہ خواتین اور دودھ پلانے والی ماؤں میں ٹیلمیسارٹن کا استعمال ممنوع ہے۔
بزرگ، جگر اور گردے کے مریض ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔

ہدایات: خوراک ڈاکٹر کی ہدایت کے مطابق استعمال کریں۔ ۲۰ سے ۲۵ ڈگری سینٹی گریڈ پر محفوظ رکھیں، محفوظ رکھنے کی حد ۱۵ سے ۳۰ ڈگری سینٹی گریڈ ہے۔ گرمی، روشنی اور نمی سے محفوظ رکھیں۔
تمام دوائیں بچوں کی پہنچ سے دور رکھیں۔

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