

atacand

TABLETS

## **USE IN PREGNANCY**

When used in pregnancy during the second and third trimesters, drugs that act directly on the reninangiotensin system can cause injury and even death to the developing fetus. When pregnancy is detected ATACAND should be discontinued as soon as possible. See WARNINGS. Fetal/Neonatal Morbidity and Mortality.

ATACAND (candesartan cilexetil), a prodrug, is hydrolyzed to candesartan during absorption from the gastrointestinal tract. Candesartan is a selective AT<sub>1</sub> subtype angiotensin II receptor antagonist.

Candesartan cilexetil, a nonpeptide, is chemically described as  $\label{eq:condition} (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy)} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy)} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy)} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy)} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy]} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy]} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]ethyl} \quad 2\text{-ethoxy-1-[[2'-(1H-1)]cyclohexyloxy]} = (\pm)\text{-1-[[(cyclohexyloxy)carbonyl]oxy]} = (\pm)\text{-1-[(cyclohexyloxy)carbonyl]oxy]} = (\pm)\text{-1-[(cyclohexyloxy)carbonyl]oxy} = (\pm)\text{-1-[(c$ tetrazol-5-yl) [1,1'-biphenyl]-4-yl]methyl]-1H-benzimidazole-7-

Its empirical formula is C<sub>33</sub>H<sub>34</sub>N<sub>6</sub>O<sub>6</sub>, and its structural formula is

Candesartan cilexetil is a white to off-white powder with a molecular weight of 610.67. It is practically insoluble in water and sparingly soluble in methanol. Candesartan cilexetil is a racemic mixture containing one chiral center at the cyclohexyloxycarbonyloxy ethyl ester group. Following oral administration, candesartan cilexetil undergoes hydrolysis at the ester link to form the active drug, candesartan, which is achiral.

ATACAND is available for oral use as tablets containing either 4 mg, 8 mg, 16 mg, or 32 mg of candesartan cilexetil and the following inactive ingredients: hydroxypropyl cellulose, polyethylene glycol, lactose, corn starch, carboxymethylcellulose calcium, and sium stearate. Ferric oxide (reddish brown) is added to the 8-mg, 16-mg, and 32-mg tablets as a colorant.

# CLINICAL PHARMACOLOGY

# Mechanism of Action

Angiotensin II is formed from angiotensin I in a reaction catalyzed angiotensin-converting enzyme (ACE, kininase II). Angiotensin II is the principal pressor agent of the reninangiotensin system, with effects that include vasoconstriction, stimulation of synthesis and release of aldosterone, cardiac stimulation, and renal reabsorption of sodium. Candesartan blocks the vasoconstrictor and aldosterone-secreting effects of angiotensin II by selectively blocking the binding of angiotensin II to the AT<sub>1</sub> 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

There is also an AT<sub>2</sub> receptor found in many tissues, but AT<sub>2</sub> is not known to be associated with cardiovascular home Candesartan has much greater affinity (>10,000-fold) for the AT, receptor than for the AT<sub>2</sub> receptor.

Blockade of the renin-angiotensin system with ACE inhibitors, which inhibit the biosynthesis of angiotensin II from angiotensin I, is widely used in the treatment of hypertension. ACE inhibitors also inhibit the degradation of bradykinin, a reaction catalyzed by ACE. Because candesartan does not inhibit ACE (kininase II), it does not affect the response to bradykinin. Whether this difference has clinical relevance is not vet known. Candesartan does not bind to or block other hormone receptors or ion channels known to be important in cardiovascular regulation.

Blockade of the angiotensin II receptor inhibits the negative resulting increased plasma renin activity and angiotensin II

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circulating levels do not overcome the effect of candesartan on

## **Pharmacokinetics**

### General

Candesartan cilexetil is rapidly and completely bioactivated by ester hydrolysis during absorption from the gastrointestinal tract to candesartan, a selective AT<sub>1</sub> subtype angiotensin II receptor antagonist. Candesartan is mainly excreted unchanged in urine and feces (via bile). It undergoes minor hepatic metabolism by O-deethylation to an inactive metabolite. The elimination half-life of candesartan is approximately 9 hours. After single and repeated administration, the pharmacokinetics of candesartan are linear for oral doses up to 32 mg of candesartan cilexetil. Candesartan and its inactive metabolite do not accumulate in serum upon repeated once-daily dosing.

Following administration of candesartan cilexetil, the absolute bioavailability of candesartan was estimated to be 15%. After tablet ingestion, the peak serum concentration ( $C_{max}$ ) is reached Clinical Trials after 3 to 4 hours. Food with a high fat content does not affect the bioavailability of candesartan after candesartan cilexetil

### Metabolism and Excretion

Total plasma clearance of candesartan is 0.37 mL/min/kg, with a renal clearance of 0.19 mL/min/kg. When candesartan is administered orally, about 26% of the dose is excreted unchanged in urine. Following an oral dose of <sup>14</sup>C-labeled candesartan cilexetil, approximately 33% of radioactivity is recovered in urine and approximately 67% in feces. Following an intravenous dose of <sup>4</sup>C-labeled candesartan, approximately 59% of radioactivity is recovered in urine and approximately 36% in feces. Biliary excretion contributes to the elimination of candesartan.

### Distribution

The volume of distribution of candesartan is 0.13 L/kg. Candesartan is highly bound to plasma proteins (>99%) and does not penetrate red blood cells. The protein binding is constant at candesartan plasma concentrations well above the range achieved with recommended doses. In rats, it has been demonstrated that candesartan crosses the blood-brain barrier poorly, if at all, It has also been demonstrated in rats that candesartan passes across the placental barrier and is distributed in the fetus.

been investigated in patients <18 years of age.

Geriatric and Gender: The pharmacokinetics of candesartan have been studied in the elderly (≥65 years) and in both sexes. The plasma concentration of candesartan was higher in the elderly was approximately 50% higher, and AUC was approximately 80% higher) compared to younger subjects administered the same dose. The pharmacokinetics of candesartan were linear in the elderly, and candesartan and its inactive metabolite did not accumulate in the serum of these subjects upon repeated, oncedaily administration. No initial dosage adjustment is necessary. (See DOSAGE AND ADMINISTRATION.) There is no difference in the pharmacokinetics of candesartan between male and female subjects.

Renal Insufficiency: In hypertensive patients with renal insufficiency, serum concentrations of candesartan were elevated. After repeated dosing, the AUC and  $C_{\text{max}}$  were approximately doubled in patients with severe renal impairment (creatinine clearance <30 mL/min/1.73m²) compared to patients with normal kidney function. The pharmacokinetics of candesartan in hypertensive patients undergoing hemodialysis are similar to agents. ose in hypertensive patients with severe renal impairment. Candesartan cannot be removed by hemodialysis. No initial dosage adjustment is necessary in patients with renal insufficiency. (See DOSAGE AND ADMINISTRATION.)

Hepatic Insufficiency: The pharmacokinetics of candesartan were compared in patients with mild and moderate hepatic impairment to matched healthy volunteers following a single oral dose of 16 mg candesartan cilexetil. The increase in AUC for candesartan was 30% in patients with mild hepatic impairment (Child-Pugh A) and 145% in patients with moderate hepatic impairment (Child-Pugh B). The increase in  $C_{\rm max}$  for candesartan was 56% in patients with mild hepatic impairment and 73% in patients with moderate hepatic impairment. The pharmacokinetics after candesartan cilexetil administration have not been investigated in patients with severe hepatic impairment. No initial dosage adjustment is necessary in patients with mild hepatic impairment. In patients with moderate hepatic impairment, consideration should be given to initiation of ATACAND at a lower dose. (See DOSAGE AND ADMINISTRATION )

# **Drug Interactions**

See PRECAUTIONS, Drug Interactions.

# **Pharmacodynamics**

Candesartan inhibits the pressor effects of angiotensin II infusion in a dose-dependent manner. After 1 week of once-daily dosing with 8 mg of candesartan cilexetil, the pressor effect was inhibited regulatory feedback of angiotensin II on renin secretion, but the by approximately 90% at peak with approximately 50% inhibition persisting for 24 hours.

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Plasma concentrations of angiotensin I and angiotensin II, and plasma renin activity (PRA), increased in a dose-dependent manner after single and repeated administration of candesartan cilexetil to healthy subjects and hypertensive patients. ACE activity was not altered in healthy subjects after repeated candesartan cilexetil administration. The once-daily administration of up to 16 mg of candesartan cilexetil to healthy subjects did not influence plasma aldosterone concentrations, but a decrease in the plasma concentration of aldosterone was observed when 32 mg of candesartan cilexetil was administered to hypertensive patients. In spite of the effect of candesartan cilexetil on aldosterone secretion, very little effect on serum potassium was observed.

In multiple-dose studies with hypertensive patients, there were no clinically significant changes in metabolic function, including serum levels of total cholesterol, triglycerides, glucose, or uric acid. In a 12-week study of 161 patients with non-insulindependent (type 2) diabetes mellitus and hypertension, there was

# Clinical Trials

The antihypertensive effects of ATACAND were examined in 14 placebo-controlled trials of 4- to 12-weeks duration, primarily at daily doses of 2 to 32 mg per day in patients with baseline diastolic blood pressures of 95 to 114 mm Hg. Most of the trials were of candesartan cilexetil as a single agent, but it was also studied as add-on to hydrochlorothiazide and amlodipine. These studies included a total of 2350 patients randomized to one of several doses of candesartan cilexetil and 1027 to placebo. Except for a study in diabetics, all studies showed significant effects, generally dose related, of 2 to 32 mg on trough (24 hour) systolic and diastolic pressures compared to placebo, with doses of 8 to 32 mg giving effects of about 8-12/4-8 mm Hg. There were no exaggerated first-dose effects in these patients. Most of the antihypertensive effect was seen within 2 weeks of initial dosing. and the full effect in 4 weeks. With once-daily dosing, blood pressure effect was maintained over 24 hours, with trough to peak ratios of blood pressure effect generally over 80%. Candesartan cilexetil had an additional blood pressure lowering effect when added to hydrochlorothiazide.

The antihypertensive effects of candesartan cilexetil and losartan potassium at their highest recommended doses administered once-daily were compared in two randomized, double-blind trials. In a total of 1268 patients with mild to moderate hypertension who were not receiving other antihypertensive therapy, Special Populations candesartan cilexetil 32 mg lowered systolic and diastolic blood Pediatric: The pharmacokinetics of candesartan cilexetil have not pressure by 2 to 3 mm Hg on average more than losartan potassium 100 mg, when measured at the time of either peak or trough effect. The antihypertensive effects of twice daily dosing of either candesartan cilexetil or losartan potassium were not studied.

The antihypertensive effect was similar in men and women and in patients older and younger than 65. Candesartan was effective in reducing blood pressure regardless of race, although the effect was somewhat less in blacks (usually a low-renin population) This has been generally true for angiotensin II antagonists and ACE inhibitors.

In long-term studies of up to 1 year, the antihypertensive effectiveness of candesartan cilexetil was maintained, and there was no rebound after abrupt withdrawal.

There were no changes in the heart rate of patients treated with candesartan cilexetil in controlled trials.

# INDICATIONS AND USAGE

ATACAND is indicated for the treatment of hypertension. It may be used alone or in combination with other antihypertensive

# CONTRAINDICATIONS

ATACAND is contraindicated in patients who are hypersensitive to any component of this product.

# Fetal Neonatal Morbidity and Mortality

Drugs that act directly on the renin-angiotensin system can cause fetal and neonatal morbidity and death when administered to pregnant women. Several dozen cases have been reported in the world literature in patients who were taking angiotensinconverting enzyme inhibitors. Post-marketing experience has identified reports of fetal and neonatal toxicity in babies born to women treated with ATACAND during pregnancy. When pregnancy is detected, ATACAND should be discontinued as soon as possible.

The use of drugs that act directly on the renin-angiotensin system during the second and third trimesters of pregnancy has been associated with fetal and neonatal injury, including hypotension, neonatal skull hypoplasia, anuria, reversible or irreversible renal failure, and death. Oligohydramnios has also been reported, presumably resulting from decreased fetal renal function: oligohydramnios in this setting has been associated with fetal limb contractures, craniofacial deformation, and hypoplastic lung development. Prematurity, intrauterine growth retardation, and patent ductus arteriosus have also been reported, although it is not clear whether these occurrences were due to exposure to the

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These adverse effects do not appear to have resulted from angiotensin II receptor antagonist only during the first trimester should be so informed. Nonetheless, when patients become Lithium: Reversible increases in serum lithium concentrations and pregnant, physicians should have the patient discontinue the use of ATACAND as soon as possible.

mothers should be apprised of the potential hazards to their fetuses, and serial ultrasound examinations should be performed to assess the intra-amniotic environment

If oligohydramnios is observed, ATACAND should be discontinued unless it is considered life saving for the mother. Contraction stress testing (CST), a nonstress test (NST), or biophysical profiling (BPP) may be appropriate, depending upon the week of pregnancy. Patients and physicians should be aware, however, that oligohydramnios may not appear until after the fetus has sustained irreversible injury.

Infants with histories of in utero exposure to an angiotensin II receptor antagonist should be closely observed for hypotension, oliguria, and hyperkalemia. If oliguria occurs, attention should be directed toward support of blood pressure and renal perfusion. Exchange transfusion or dialysis may be required as means of reversing hypotension and/or substituting for disordered renal

of hydronephrosis in the offspring. The 10-mg/kg/day dose in rats assumes human body weight of 50 kg). Candesartan cilexetil given to pregnant rabbits at an oral dose of 3 mg/kg/day (approximately 1.7 times the MRHD on a mg/m² basis) caused maternal toxicity (decreased body weight and death) but, in surviving dams, had no adverse effects on fetal survival, fetal weight, or external, visceral, or skeletal development. No maternal toxicity or adverse effects on fetal development were observed when oral doses up to 1000 mg Pregnancy of candesartan cilexetil/kg/day (approximately 138 times the MRHD on a mg/m² basis) were administered to pregnant mice.

### Hypotension in Volume- and Salt-Depleted Patients

In patients with an activated renin-angiotensin system, such as Nursing Mothers volume- and/or salt-depleted patients (eg, those being treated It is not known whether candesartan is excreted in human milk, supervision (see DOSAGE AND ADMINISTRATION).

If hypotension occurs, the patients should be placed in the supine position and, if necessary, given an intravenous infusion of normal saline. A transient hypotensive response is not a contraindication to further treatment which usually can be continued without difficulty once the blood pressure has stabilized.

# PRECAUTIONS

# General

Impaired Hepatic Function: Based on pharmacokinetic data which demonstrate significant increases in candesartan AUC and  $C_{\text{max}}$ in patients with moderate hepatic impairment, a lower initiating CLINICAL PHARMACOLOGY, Special Populations.)

Impaired Renal Function: As a consequence of inhibiting the renin-angiotensin-aldosterone system, changes in renal function may be anticipated in susceptible individuals treated with ATÁCAND. In patients whose renal function may depend upon the ADVERSE REACTIONS activity of the renin-angiotensin-aldosterone system (eg. patients with severe congestive heart failure), treatment with angiotensinconverting enzyme inhibitors and angiotensin receptor antagonists has been associated with oliguria and/or progressive azotemia and (rarely) with acute renal failure and/or death. Similar results may be anticipated in patients treated with ATACAND. (See CLINICAL PHARMACOLOGY, Special Populations.)

In studies of ACE inhibitors in patients with unilateral or bilateral renal artery stenosis, increases in serum creatinine or blood urea nitrogen (BUN) have been reported. There has been no long-term use of ATACAND in patients with unilateral or bilateral renal artery stenosis, but similar results may be expected.

# Information for Patients

about the consequences of second- and third-trimester exposure 
The most common reasons for discontinuation of therapy with to drugs that act on the renin-angiotensin system, and they should also be told that these consequences do not appear to have resulted from introducing drug expecting that have resulted from introducing drug expecting that have been the adverse events that occurred in placebo-controlled clinical have resulted from intrauterine drug exposure that has been limited to the first trimester. These patients should be asked to report pregnancies to their physicians as soon as possible.

# Drug Interactions

No significant drug interactions have been reported in studies of (2% vs 1%), and rhinitis (2% vs 1%). candesartan cilexetil given with other drugs such as glyburide, The following adverse events occurred in placebo-controlled nifedipine, digoxin, warfarin, hydrochlorothiazide, and oral clinical trials at a more than 1% rate but at about the same or

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significantly metabolized by the cytochrome P450 system and at intrauterine drug exposure that has been limited to the first therapeutic concentrations has no effects on P450 enzymes. trimester. Mothers whose embryos and fetuses are exposed to an interactions with drugs that inhibit or are metabolized by those Ø

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toxicity have been reported during concomitant administration of lithium with ACE inhibitors, and with some angiotensin II receptor Rarely (probably less often than once in every thousand antagonists. An increase in serum lithium concentration has been pregnancies), no alternative to a drug acting on the renin-reported during concomitant administration of lithium with angiotensin system will be found. In these rare cases, the ATACAND, so careful monitoring of serum lithium levels is recommended during concomitant use.

# Carcinogenesis, Mutagenesis, Impairment of Fertility

There was no evidence of carcinogenicity when candesartar cilexetil was orally administered to mice and rats for up to 104 weeks at doses up to 100 and 1000 mg/kg/day, respectively. Rats received the drug by gavage, whereas mice received the drug by dietary administration. These (maximally-tolerated) doses of candesartan cilexetil provided systemic exposures to candesartan (AUCs) that were, in mice, approximately 7 times and, in rats, more than 70 times the exposure in man at the maximum recommended daily human dose (32 mg).

Candesartan and its O-deethyl metabolite tested positive fo genotoxicity in the *in vitro* Chinese hamster lung (CHL) chromosomal aberration assay. Neither compound tested positive in the Ames microbial mutagenesis assay or the *in vitro* mouse lymphoma cell assay. Candesartan (but not its O-deethyl etabolite) was also evaluated in vivo in the mouse micronucleus Oral doses ≥ 10 mg of candesartan cilexetil/kg/day administered to test and in vitro in the Chinese hamster ovary (CHO) gene pregnant rats during late gestation and continued through lactation were associated with reduced survival and an increased incidence lymphoma cell and rat hepatocyte unscheduled DNA synthesis is approximately 2.8 times the maximum recommended daily human dose (MRHD) of 32 mg on a mg/m² basis (comparison with negative results. Candesartan cilexetil was not evaluated in

> Fertility and reproductive performance were not affected in studies with male and female rats given oral doses of up to 300 mg/kg/day (83 times the maximum daily human dose of 32 mg on a body

Pregnancy Categories C (first trimester) and D (second and third trimesters). See WARNINGS, Fetal/Neonatal Morbidity and

with diuretics), symptomatic hypotension may occur. These but candesartan has been shown to be present in rat milk. conditions should be corrected prior to administration of Because of the potential for adverse effects on the nursing infant, ATACAND, or the treatment should start under close medical a decision should be made whether to discontinue nursing or discontinue the drug, taking into account the importance of the drug to the mother.

# Pediatric Use

Safety and effectiveness in pediatric patients have not been

Of the total number of subjects in clinical studies of ATACAND, 21% (683/3260) were 65 and over while 3% (87/3260) were 75 and over. No overall differences in safety or effectiveness were observed between these subjects and younger subjects, and other reported clinical experience has not identified differences in dose should be considered for patients with moderate hepatic responses between the elderly and younger patients, but greater impairment. (See DOSAGE AND ADMINISTRATION, and sensitivity of some older individuals cannot be ruled out. In a placebo-controlled trial of about 200 elderly hypertensive patients (ages 65 to 87 years), administration of candesartan cilexetil was well tolerated and lowered blood pressure by about 12/6 mm Hg more than placebo.

ATACAND has been evaluated for safety in more than 3600 patients/subjects, including more than 3200 patients treated for hypertension. About 600 of these patients were studied for at least 6 months and about 200 for at least 1 year. In general, treatment with ATACAND was well tolerated. The overall incidence of adverse events reported with ATACAND was similar to placebo.

The rate of withdrawals due to adverse events in all trials in patients (7510 total) was 3.3% (ie, 108 of 3260) of patients treated with candesartan cilexetil as monotherapy and 3.5% (ie, 39 of 1106) of patients treated with placebo. In placebo-controlled trials. discontinuation of therapy due to clinical adverse events occurred in 2.4% (ie, 57 of 2350) of patients treated with ATACAND and Pregnancy: Female patients of childbearing age should be told 3.4% (ie, 35 of 1027) of patients treated with placebo.

trials in at least 1% of patients treated with ATACAND and at a higher incidence in candesartan cilexetil (n=2350) than placebo (n=1027) patients included back pain (3% vs 2%), dizziness (4% vs 3%), upper respiratory tract infection (6% vs 4%), pharyngitis

contraceptives in healthy volunteers. Because candesartan is not greater incidence in patients receiving placebo compared to





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Other potentially important adverse events that have been of 0.5% of greater from the 3250 patients worldwide treated in clinical trials with ATACAND are listed below. It cannot be determined whether these events were causally related to ATACAND. Body as a Whole: asthenia, fever; Central and Peripheral Nervous System: paresthesia, vertigo; Gastrointestinal System Disorder: dyspepsia, gastroenteritis; Heart Rate and Rhythm Disorders: tachycardia, palpitation; ATACAND may be administered with or without food. Metabolic and Nutritional Disorders: creatine phosphokinase 
If blood pressure is not controlled by ATACAND alone, a diuretic increased, hyperglycemia, hypertriglyceridemia, hyperuricemia; Musculoskeletal System Disorders: myalgia; Platelet/Bleeding-Clotting Disorders: epistaxis; Psychiatric Disorders: epistaxis; Psychiatric
Disorders: anxiety, depression, somnolence; Respiratory
System Disorders: dyspnea; Skin and Appendages
No. 3782 — Tablets ATACAND, 4 mg, are white to off-white, Disorders: rash, sweating increased; Urinary System Disorders: hematuria.

Other reported events seen less frequently included angina NDC 0186-0004-31 unit of use bottles of 30. pectoris, myocardial infarction, and angioedema.

women, older and younger patients, and black and nonblack one side and 008 on the other. They are supplied as follows:

### Post-Marketing Experience

experience:

Digestive: Abnormal hepatic function and hepatitis.

Skin and Appendages Disorders: Pruritis and urticaria.

## **Laboratory Test Findings**

In controlled clinical trials, clinically important changes in standard laboratory parameters were rarely associated with the administration of ATACAND.

\*\*Circular/biconvex-shaped, non-film-coated tablets, coded ACL on one side and 032 on the other. They are supplied as follows:

\*\*NDC 0186-0032-31 unit of use bottles of 30\*\* administration of ATACAND.

Creatinine, Blood Urea Nitrogen: Minor increases in blood urea NDC 0186-0032-54 unit of use bottles of 90 nitrogen (BUN) and serum creatinine were observed infrequently. NDC 0186-0032-28 unit dose packages of 100. Hyperuricemia: Hyperuricemia was rarely found (19 or 0.6% of 3260 patients treated with candesartan cilexetil and 5 or 0.5% of 1106 patients treated with placebo).

Hemodlobin and Hematocrit: Small decreases in hemoglobin and hematocrit (mean decreases of approximately 0.2 grams/dL and 0.5 volume percent, respectively) were observed in patients treated with ATACAND alone but were rarely of clinical importance. Anemia, leukopenia, and thrombocytopenia were © AstraZeneca 2002 associated with withdrawal of one patient each from clinical trials.

Potassium: A small increase (mean increase of 0.1 mFg/L) was observed in patients treated with ATACAND alone but was rarely of clinical importance. One patient from a congestive heart failure trial was withdrawn for hyperkalemia (serum potassium = 7.5 mEq/L). This patient was also receiving spironolactone.

Liver Function Tests: Elevations of liver enzymes and/or serum for: AstraZeneca LP, Wilmington, DE 19850 bilirubin were observed infrequently. Five patients assigned to candesartan cilexetil in clinical trials were withdrawn because of abnormal liver chemistries. All had elevated transaminases. Two had mildly elevated total bilirubin, but one of these patients was diagnosed with Hepatitis A.

# OVERDOSAGE

No lethality was observed in acute toxicity studies in mice, rats, and dogs given single oral doses of up to 2000 mg/kg of candesartan cilexetil. In mice given single oral doses of the primary metabolite, candesartan, the minimum lethal dose was greater than 1000 mg/kg but less than 2000 mg/kg.

The most likely manifestation of overdosage with ATACAND would be hypotension, dizziness, and tachycardia; bradycardia could occur from parasympathetic (vagal) stimulation. I symptomatic hypotension should occur, supportive treatment

Candesartan cannot be removed by hemodialysis.

Treatment: To obtain up-to-date information about the treatment of overdose, consult your Regional Poison Control Center. Telephone numbers of certified poison control centers are listed in the *Physicians' Desk Reference (PDR)*. In managing overdose, consider the possibilities of multiple-drug overdoses, drug-drug interactions, and altered pharmacokinetics in your patient.

# DOSAGE AND ADMINISTRATION

Dosage must be individualized. Blood pressure response is dose related over the range of 2 to 32 mg. The usual recommended starting dose of ATACAND is 16 mg once daily when it is used as monotherapy in patients who are not volume depleted ATACAND can be administered once or twice daily with tota daily doses ranging from 8 mg to 32 mg. Larger doses do not appear to have a greater effect, and there is relatively little experience with such doses. Most of the antihypertensive effect is present within 2 weeks, and maximal blood pressure reduction is generally obtained within 4 to 6 weeks of treatment with ATACAND.

No initial dosage adjustment is necessary for elderly patients, for patients with mildly impaired renal function, or for patients for p

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candesartan cilexetil: fatigue, peripheral edema, chest pain, headache, bronchitis, coughing, sinusitis, nausea, abdominal pain, diarrhea, vomiting, arthralgia, albuminuria.

with mildly impaired hepatic function (see CLINICAL PHARMACOLOGY, Special Populations). In patients with moderate hepatic impairment, consideration should be given to initiation of ATACAND at a lower dose (See CLINICAL reported, whether or not attributed to treatment, with an incidence of 0.5% or greater from the 3260 patients worldwide treated in possible depletion of intravascular volume (eg, patients treated

may be added. ATACAND may be administered with other antihypertensive agents.

circular/biconvex-shaped, non-film-coated tablets, coded ACF on one side and 004 on the other. They are supplied as follows:

NDC 0186-0008-31 unit of use bottles of 30.

No. 3780 — Tablets ATACAND, 8 mg, are light pink, Adverse events occurred at about the same rates in men and circular/biconvex-shaped, non-film-coated tablets, coded ACG on

No. 3781 — Tablets ATACAND, 16 mg, are pink, The following have been very rarely reported in post-marketing circular/biconvex-shaped, non-film-coated tablets, coded ACH on one side and 016 on the other. They are supplied as follows:

NDC 0186-0016-31 unit of use bottles of 30

Hematologic: Neutropenia, leukopenia, and agranulocytosis. NDC 0186-0016-54 unit of use bottles of 90

NDC 0186-0016-28 unit dose packages of 100.

No. 3791 — Tablets ATACAND, 32 mg, are pink,

# Storage

Store at 25°C (77°F); excursions permitted to 15-30°C (59-86°F) [see USP Controlled Room Temperature]. Keep container tightly closed.

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