

Back

30 mm

550 mm

7 DRUG INTERACTIONS

Acamprosate does not affect the pharmacokinetics of alcohol. The pharmacokinetics of acamprosate are not affected by alcohol, diazepam, or disulfiram, and clinically important interactions between naltrexone and acamprosate were not observed [see Clinical Pharmacology (12.3)].

8 USE IN SPECIFIC POPULATIONS

8.1 Pregnancy

Teratogenic effects: Acamprosate calcium has been shown to be teratogenic in rats when given in doses that are approximately equal to the human dose (on a mg/m² basis) and in rabbits when given in doses that are approximately 3 times the human dose (on a mg/m² basis). Acamprosate calcium produced a dose-related increase in the number of fetuses with malformations in rats at oral doses of 300 mg/kg/day or greater (approximately equal to the maximum recommended human daily (MRHD) oral dose on a mg/m² basis). The malformations included hydronephrosis, malformed iris, retinal dysplasia, and retroesophageal subclavian artery. No findings were observed at an oral dose of 50 mg/kg/day (approximately one-fifth the MRHD oral dose on a mg/m² basis). An increased incidence of hydronephrosis was also noted in Burgundy Tawny rabbits at oral doses of 400 mg/kg/day or greater (approximately 3 times the MRHD oral dose on a mg/m² basis). No developmental effects were observed in New Zealand white rabbits at oral doses up to 1000 mg/kg/day (approximately 8 times the MRHD oral dose on a mg/m² basis). The findings in animals should be considered in relation to known adverse developmental effects of ethyl alcohol, which include the characteristics of fetal alcohol syndrome (craniofacial dysmorphism, intrauterine and postnatal growth retardation, retarded psychomotor and intellectual development) and milder forms of neurological and behavioral disorders in humans. There are no adequate and well controlled studies in pregnant women. Acamprosate calcium should be used during pregnancy only if the potential benefit justifies the potential risk to the fetus.

Nonteratogenic effects: A study conducted in pregnant mice that were administered acamprosate calcium by the oral route starting on Day 15 of gestation through the end of lactation on postnatal day 28 demonstrated an increased incidence of still-born fetuses at doses of 960 mg/kg/day or greater (approximately 2 times the MRHD oral dose on a mg/m² basis). No effects were observed at a dose of 320 mg/kg/day (approximately one-half the MRHD dose on a mg/m² basis).

8.2 Labor and Delivery

The potential for acamprosate calcium to affect the duration of labor and delivery is unknown.

8.3 Nursing Mothers

In animal studies, acamprosate was excreted in the milk of lactating rats dosed orally with acamprosate calcium. The concentration of acamprosate in milk compared to blood was 1.3:1. It is not known whether acamprosate is excreted in human milk. Because many drugs are excreted in human milk, caution should be exercised when acamprosate calcium is administered to a nursing woman.

8.4 Pediatric Use

The safety and efficacy of acamprosate calcium have not been established in the pediatric population.

8.5 Geriatric Use

Forty-one of the 4234 patients in double-blind, placebo-controlled, clinical trials of acamprosate calcium were 65 years of age or older, while none were 75 years of age or over. There were too few patients in the ≥65 age group to evaluate any differences in safety or effectiveness for geriatric patients compared to younger patients.

This drug is known to be substantially excreted by the kidney, and the risk of toxic reactions to this drug may be greater in patients with impaired renal function. Because elderly patients are more likely to have decreased renal function, care should be taken in dose selection, and it may be useful to monitor renal function [see Clinical Pharmacology (12.3), Adverse Reactions (6.1), and Dosage and Administration (2.1)].

8.6 Renal Impairment

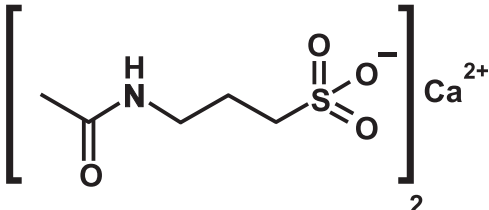
Acamprosate calcium is contraindicated in patients with severe renal impairment (creatinine clearance of ≤30 mL/min) [see Dosage and Administration (2.1), Contraindications (4.2), Warnings and Precautions (5.1), and Clinical Pharmacology (12.3)].

10 OVERDOSAGE

In all reported cases of acute overdosage with acamprosate calcium (total reported doses of up to 56 grams of acamprosate calcium), the only symptom that could be reasonably associated with acamprosate calcium was diarrhea. Hypercalcemia has not been reported in cases of acute overdose. A risk of hypercalcemia should be considered in chronic overdosage only. Treatment of overdose should be symptomatic and supportive.

11 DESCRIPTION

Acamprosate calcium is supplied in an enteric-coated tablet for oral administration. Acamprosate calcium is a synthetic compound with a chemical structure similar to that of the endogenous amino acid homotaurine, which is a structural analogue of the amino acid neurotransmitter γ-aminobutyric acid and the amino acid neuromodulator taurine. Its chemical name calcium 3-(acetylamino) propane-1-sulfonate. Its chemical formula is C₁₀H₁₉N₂O₅S₂Ca and molecular weight is 400.50. Its structural formula is:



Acamprosate calcium is a white or almost white powder. It is freely soluble in water, practically insoluble in alcohol and Methylene chloride.

Each Acamprosate calcium delayed-release tablet contains acamprosate calcium 333 mg, equivalent to 300 mg of acamprosate.

Inactive ingredients in Acamprosate calcium delayed-release tablet include: colloidal silicon dioxide, magnesium stearate, methacrylic acid and ethyl acrylate copolymer dispersion, microcrystalline cellulose, povidone, sodium starch glycolate, talc and triethylcitrate. Sulfites were used in the synthesis of the drug substance and traces of residual sulfites may be present in the drug product.

12 CLINICAL PHARMACOLOGY

12.1 Mechanism of Action

The mechanism of action of acamprosate in maintenance of alcohol abstinence is not completely understood. Chronic alcohol exposure is hypothesized to alter the normal balance between neuronal excitation and inhibition. *In vitro* and *in vivo* studies in animals have provided evidence to suggest acamprosate may interact with glutamate and GABA neurotransmitter systems centrally, and has led to the hypothesis that acamprosate restores this balance.

12.2 Pharmacodynamics

Pharmacodynamic studies have shown that acamprosate calcium reduces alcohol intake in alcohol-dependent animals in a dose-dependent manner and that this effect appears to be specific to alcohol and the mechanisms of alcohol dependence.

Acamprosate calcium has negligible observable central nervous system (CNS) activity in animals outside of its effects on alcohol dependence, exhibiting no anticonvulsant, antidepressant, or anxiolytic activity.

The administration of acamprosate calcium is not associated with the development of tolerance or dependence in animal studies. Acamprosate calcium did not produce any evidence of withdrawal symptoms in patients in clinical trials at therapeutic doses. Post marketing data, collected retrospectively outside the U.S. have provided no evidence of acamprosate calcium abuse or dependence.

Acamprosate calcium is not known to cause alcohol aversion and does not cause a disulfiram-like reaction as a result of ethanol ingestion.

12.3 Pharmacokinetics

Absorption

The absolute bioavailability of acamprosate calcium after oral administration is about 11%. Steady-state plasma concentrations of acamprosate are reached within 5 days of dosing. Steady-state peak plasma concentrations after acamprosate calcium doses of 2 x 333 mg tablets three times daily average 350 ng/mL and occur at 3 to 8 hours post-dose. Coadministration of acamprosate calcium with food decreases bioavailability as measured by C_{max} and AUC, by approximately 42% and 23%, respectively. The food effect on absorption is not clinically significant and no adjustment of dose is necessary.

Distribution

The volume of distribution for acamprosate following intravenous administration is estimated to be 72 to 109 liters (approximately 1 L/kg).

Plasma protein binding of acamprosate is negligible.

Metabolism

Acamprosate does not undergo metabolism.

Elimination

After oral dosing of 2 x 333 mg of acamprosate calcium, the terminal half-life ranges from approximately 20 to 33 hours. Following oral administration of acamprosate calcium, the major route of excretion is via the kidneys as acamprosate.

Special Populations

Gender: Acamprosate calcium does not exhibit any significant pharmacokinetic differences between male and female subjects.

Age: The pharmacokinetics of acamprosate calcium have not been evaluated in a geriatric population. However, since renal function diminishes in elderly patients and acamprosate is excreted unchanged in urine, acamprosate plasma concentrations are likely to be higher in the elderly population compared to younger adults.

Pediatrics: The pharmacokinetics of acamprosate calcium have not been evaluated in a pediatric population.

Renal Impairment: Peak plasma concentrations after administration of a single dose of 2 x 333 mg acamprosate calcium delayed-release tablets to patients with moderate or severe renal impairment were about 2-fold and 4-fold higher, respectively, compared to healthy subjects. Similarly, elimination half-life was about 1.8-fold and 2.6-fold longer, respectively, compared to healthy subjects. There is a linear relationship between creatinine clearance values and total apparent plasma clearance, renal clearance and plasma half-life of acamprosate. A dose of 1 x 333 mg acamprosate calcium, three times daily, is recommended in patients with moderate renal impairment (creatinine clearance of 30 to 50 mL/min, [see Use in Specific Populations (8.6)].

Acamprosate calcium is contraindicated in patients with severe renal impairment (creatinine clearance of ≤30 mL/min) [see Dosage and Administration (2.1), Contraindications (4.2), Warnings and Precautions (5.1), and Use in Specific Populations (8.6)].

Hepatic Impairment: Acamprosate is not metabolized by the liver and the pharmacokinetics of acamprosate calcium are not altered in patients with mild to moderate hepatic impairment (groups A and B of the Child-Pugh classification). No adjustment of dosage is recommended in such patients.

Alcohol-dependent subjects: A cross-study comparison of acamprosate calcium at doses of 2 x 333 mg three times daily indicated similar pharmacokinetics between alcohol-dependent subjects and healthy subjects.

Drug-Drug Interactions

Acamprosate had no inducing potential on the cytochrome CYP1A2 and 3A4 systems, and *in vitro* inhibition studies suggest that acamprosate does not inhibit *in vivo* metabolism mediated by cytochrome CYP1A2, 2C9, 2C19, 2D6, 2E1, or 3A4. The pharmacokinetics of acamprosate calcium were unaffected when co-administered with alcohol, disulfiram or diazepam. Similarly, the pharmacokinetics of ethanol, diazepam and nordiazepam, imipramine and desipramine, naltrexone and 6-beta naltrexol were unaffected following co-administration with acamprosate calcium. However, co-administration of acamprosate calcium with naltrexone led to a 33% increase in the C_{max} and a 25% increase in the AUC of acamprosate. No adjustment of dosage is recommended in such patients.

13 NONCLINICAL TOXICOLOGY

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

Dietary administration of acamprosate calcium for 2 years to Sprague-Dawley rats at doses of 25, 100 and 400 mg/kg/day (up to 3 times the maximum recommended human daily (MRHD) oral dose on an AUC basis) and CD-1 mice at doses of 400, 1200 and 3600 mg/kg/day (up to 25 times the MRHD on an AUC basis) showed no evidence of increased tumor incidence.

Acamprosate calcium was negative in all genetic toxicology studies conducted. Acamprosate calcium demonstrated no evidence of genotoxicity in an *in vitro* bacterial reverse point mutation assay (Ames assay) or an *in vitro* mammalian cell gene mutation test using Chinese Hamster Lung V79 cells. No clastogenicity was observed in an *in vitro* chromosomal aberration assay in human lymphocytes and no chromosomal damage detected in an *in vivo* mouse micronucleus assay.

Acamprosate calcium had no effect on fertility after treatment for 70 days prior to mating in male rats and for 14 days prior to mating, throughout mating, gestation and lactation in female rats at doses up to 1000 mg/kg/day (approximately 4 times the MRHD oral dose on a mg/m² basis). In mice, acamprosate calcium administered orally for 60 days prior to mating and throughout gestation in females at doses up to 2400 mg/kg/day (approximately 5 times the MRHD oral dose on a mg/m² basis) had no effect on fertility.

14 CLINICAL STUDIES

The efficacy of acamprosate calcium in the maintenance of abstinence was supported by three clinical studies involving a total of 998 patients who were administered at least one dose of acamprosate calcium or placebo as an adjunct to psychosocial therapy. Each study was a double-blind, placebo-controlled trial in alcohol-dependent patients who had undergone inpatient detoxification and were abstinent from alcohol on the day of randomization. Study durations ranged from 90 days to 360 days. Acamprosate calcium proved superior to placebo in maintaining abstinence, as indicated by a greater percentage of subjects being assessed as continuously abstinent throughout treatment.

In a fourth study, the efficacy of acamprosate calcium was evaluated in alcoholics, including patients with a history of polysubstance abuse and patients who had not undergone detoxification and were not required to be abstinent at baseline. This study failed to demonstrate superiority of acamprosate calcium over placebo.

16 HOW SUPPLIED/STORAGE AND HANDLING

Acamprosate calcium delayed-release tablets, 333 mg are white to off white, round shaped enteric-coated tablets debossed with AC on one side and '476' on the other side and free from physical defects.

Bottle of 30, NDC 70069-860-30

Bottle of 180, NDC 70069-860-18

Storage and Handling

Store at 20°C to 25°C(68° F to 77°F); excursions permitted to 15°C to 30°C (59°F to 86°F) [see USP Controlled Room Temperature].

17 PATIENT COUNSELING INFORMATION

17.1 Information for Patients

Physicians are advised to discuss the following issues with patients for whom they prescribe acamprosate calcium.

Renal Impairment

A lower dose is recommended for patients with moderate renal impairment. Acamprosate calcium is contraindicated in patients with severe renal impairment (creatinine clearance of ≤30 mL/min) [see Dosage and Administration (2.1), Contraindications (4.2), Warnings and Precautions (5.1) and Use in Specific Populations (8.6)].

Suicidality and Depression

Families and caregivers of patients being treated with acamprosate calcium should be alerted to the need to monitor patients for the emergence of symptoms of depression or suicidality, and to report such symptoms to the patient's health care provider [see Warnings and Precautions (5.2)].

Alcohol Withdrawal

Use of acamprosate calcium does not eliminate or diminish withdrawal symptoms [see Warnings and Precautions (5.3)].

Pregnancy and Breast Feeding

• Advise patients to notify their physician if they become pregnant or intend to become pregnant during therapy.

• Advise patients to notify their physician if they are breast-feeding.

Relapse to Drinking

• Advise patients to continue acamprosate calcium therapy as directed, even in theevent of relapse and remind them to discuss any renewed drinking with their physicians.

• Advise patients that acamprosate calcium has been shown to help maintain abstinence only when used as a part of a treatment program that includes counseling and support.

Manufactured for:

Somerset Therapeutics, LLC
Somerset, NJ 08873

Made in India

Rev. 04/2026

M.L No. 08 13 2289

170 mm