Diltiazem

(Hypercard (c), Adizem*, Angitil*, Dilcardia*, Diltiazem*, Dilzem*, Slozem*, Tildiem*, Viazem*, Zemret*) POM-V, POM

- **Client Information Leaflet:** Diltiazem
- **Formulations**

Oral: 10 mg (Hypercard), 60 mg modified-release (-MR) tablets. Long-acting (-SR) preparations authorized for humans, such as Dilcardia SR (60 mg, 90 mg, 120 mg capsules), are available but their pharmacokinetics have been little studied in animals to date. Injectable: 10 mg/ml (check concentration prior to use as strength may vary).

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- **Action**

Non-dihydropyridine calcium channel blocker. It inhibits inward movement of calcium ions through slow (L -type) calcium channels in myocardial cells, cardiac conduction tissue and vascular smooth muscle. Diltiazem is less potent than the dihydropyridine calcium channel blockers (e.g. amlodipine) at causing vasodilation of coronary and peripheral vessels. Diltiazem causes a reduction in myocardial contractility (negative inotrope, although less marked than verapamil), depressed electrical activity (retarded atrioventricular conduction) and decreased vascular resistance (vasodilation of cardiac vessels and peripheral arteries and arterioles).

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- **Use**
    - Primarily used to control supraventricular tachyarrhythmias in dogs and cats.
    - Authorized for use in cats with hypertrophic cardiomyopathy although beta-adrenergic blockers are more commonly used.
    - Effective to decrease the ventricular rate in dogs with atrial fibrillation either as monotherapy or in combination with digoxin.

Digoxin/diltiazem combination therapy results in more effective rate control than monotherapy. Diltiazem is preferred to verapamil by many because it has effective antiarrhythmic properties with minimal negative inotropy. Diltiazem is less effective than amlodipine in the management of hypertension. Reduce the dose in patients with hepatic or renal impairment.

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- **DOSES**
    - **Dogs** 0.05–0.25 mg/kg i.v. over 1–2 min; 0.5–2.0 mg/kg p.o. q8h for modified-release products; up to 3.0 mg/kg p.o. q12h for sustained-/extended-release preparations (little evidence established with -SR products). Lower doses are preferred in the presence of heart failure. Long-acting preparations have been used at a dose of 10 mg/kg p.o. q24h but there is little experience with such formulations in animals. In refractory supraventricular tachyarrhythmias, doses up to 4 mg/kg p.o. q8h have been reported.

- **Cats** 0.05–0.25 mg/kg i.v. over 1–2 min; 0.5–2.5 mg/kg p.o. q8h; one 10 mg tablet for cats of 3–6.25 kg p.o. q8h.