Lipidil†; ***Philipp.:*** Fibrafen; Lipanthyl; Lipway; Nubrex; Trolip; ***Pol.:*** Apo-Feno; Fenardin; Fenoratio; Grofibrat; Lipanthyl; ***Port.:*** Apteor; Catalip; Lipanthyl; Lipofen; Supralip; ***Rus.:*** Lipanthyl (Липантил); ***S.Afr.:*** Lipsin†; ***Singapore:*** Fenogal Lidose; Lexemin; Lipanthyl; ***Spain:*** Liparison; Secalip; ***Swed.:*** Lipanthyl; ***Switz.:*** Lipanthyl; ***Thai.:*** Fenox; Fibrolan; Lexemin; Lipanthyl; Supralip; ***Turk.:*** Lipanthyl; Lipofen; ***UK:*** Fenogal; Lipantil; Supralip; ***USA:*** Antara; Lipofen; Lofibra; Tricor; Triglide.

Fenoldopam Mesilate *(BANM, rINNM)*

Fénoldopam, Mésilate de; Fenoldopam Mesylate *(USAN)*; Fenoldopami Mesilas; Mesilato de fenoldopam; SKF-82526-j. 6-Chloro-2,3,4,5-tetrahydro-1-(*p*-hydroxyphenyl)-1*H*-3-benzazepine-7,8-diol methanesulfonate.

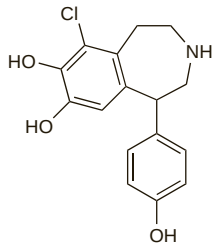
Фенолдопама Мезилат

$C_{16}H_{16}ClNO_3,CH_4O_3S$ = 401.9.

CAS — 67227-56-9 (fenoldopam); 67227-57-0 (fenoldopam mesilate).

ATC — C01CA19.

ATC Vet — QC01CA19.



(fenoldopam)

Pharmacopoeias. In *US.*

USP 31 (Fenoldopam Mesylate). A white to off-white powder. Soluble in water. Store in airtight containers at a temperature of 25°, excursions permitted between 15° and 30°. Protect from moisture.

Incompatibility. Physical incompatibility has been reported[1] with fenoldopam 80 micrograms/mL (as the mesilate) in 0.9% sodium chloride injection and the following drugs during simulated Y-site administration: aminophylline; ampicillin sodium; amphotericin B; bumetanide; cefoxitin sodium; dexamethasone sodium phosphate; diazepam; fosphenytoin sodium; furosemide; ketorolac tromethamine; methohexital sodium; methylprednisolone sodium succinate; pentobarbital sodium; phenytoin sodium; prochlorperazine edisilate; sodium bicarbonate; and thiopental sodium.

1. Trissel LA, *et al.* Compatibility of fenoldopam mesylate with other drugs during simulated Y-site administration. *Am J Health-Syst Pharm* 2003; **60:** 80–5.

Stability. Fenoldopam mesilate, at concentrations ranging from 4 to 300 micrograms/mL in glucose 5% or sodium chloride 0.9%, has been reported[1] to be stable for 72 hours when stored at temperatures of 4° or 23°.

1. Trissel LA, *et al.* Stability of fenoldopam mesylate in two infusion solutions. *Am J Health-Syst Pharm* 2002; **59:** 846–8.

Adverse Effects and Precautions

The adverse effects of fenoldopam are mainly due to vasodilatation and include hypotension, flushing, dizziness, headache, and reflex tachycardia. Nausea and vomiting, and ECG abnormalities have also been reported. Hypokalaemia has occurred and serum-electrolyte concentrations should be monitored during therapy; blood pressure and heart rate should also be monitored. Fenoldopam may increase intra-ocular pressure and it should be used with caution in patients with glaucoma. Caution is also required in patients in whom hypotension could be deleterious, such as those with acute cerebral infarction or haemorrhage.

Effects on the heart. Although fenoldopam is usually associated with reflex tachycardia, precipitous bradycardia in 2 patients given fenoldopam infusion in a clinical study[1] forced the drug to be stopped.

1. Taylor AA, *et al.* Sustained hemodynamic effects of the selective dopamine-1 agonist, fenoldopam, during 48-hour infusions in hypertensive patients: a dose-tolerability study. *J Clin Pharmacol* 1999; **39:** 471–9.

Interactions

The hypotensive effects of fenoldopam may be enhanced by other drugs with hypotensive actions. Beta blockers may block fenoldopam-induced reflex tachycardia and use of the drugs together is not recommended.

Pharmacokinetics

Steady-state plasma concentrations of fenoldopam are reached about 20 minutes after starting continuous intravenous infusion. Fenoldopam is extensively metabolised with only about 4% of a dose being excreted unchanged. It is metabolised by conjugation (mainly glucuronidation, methylation, and sulfation). Fenoldopam and its metabolites are excreted mainly in the urine, and the remainder in the faeces. The elimination half-life of fenoldopam is about 5 minutes.

Uses and Administration

Fenoldopam is a dopamine agonist that is reported to have a selective action at dopamine D_1-receptors, leading to vasodilatation. It is used in the short-term management of severe hypertension (below) and has also been tried in heart failure.

Fenoldopam is given intravenously as the mesilate, although doses are expressed in terms of the base; 1.31 micrograms of fenoldopam mesilate is equivalent to about 1 microgram of fenoldopam.

In the management of hypertensive crises, fenoldopam mesilate is given by continuous intravenous infusion for up to 48 hours, as a solution containing 40 micrograms/mL of fenoldopam. The dose should be adjusted according to response, in usual increments of 50 to 100 nanograms/kg per minute at not less than 15-minute intervals. The usual dose range is from 100 to 1600 nanograms/kg per minute.

In the management of hypertensive crises in children, fenoldopam mesilate is given by continuous intravenous infusion for up to 4 hours, as a solution containing 60 micrograms/mL of fenoldopam. US licensed product information states that the initial dose used in clinical studies was 200 nanograms/kg per minute; adjustments according to response every 20 to 30 minutes up to 500 nanograms/kg per minute were usually well-tolerated. No benefit was seen from doses above 800 nanograms/kg per minute.

Hypertension. Fenoldopam has a rapid onset of action and short elimination half-life and may be used as an alternative to sodium nitroprusside in the management of hypertensive crises (see under Hypertension, p.1171). Its use has been reviewed.[1-3] Comparative studies with sodium nitroprusside in patients with acute severe hypertension have shown fenoldopam to be equally effective in rapidly lowering blood pressure. Additionally, in contrast to nitroprusside, urine output, creatinine clearance, and sodium excretion may be increased by fenoldopam. Fenoldopam may therefore be particularly useful in patients with renal impairment, although this remains to be established.

1. Brogden RN, Markham A. Fenoldopam: a review of its pharmacodynamic and pharmacokinetic properties and intravenous clinical potential in the management of hypertensive urgencies and emergencies. *Drugs* 1997; **54:** 634–50.
2. Post JB, Frishman WH. Fenoldopam: a new dopamine agonist for the treatment of hypertensive urgencies and emergencies. *J Clin Pharmacol* 1998; **38:** 2–13.
3. Murphy MB, *et al.* Fenoldopam: a selective peripheral dopamine-receptor agonist for the treatment of severe hypertension. *N Engl J Med* 2001; **345:** 1548–57.

Nephrotoxicity. Fenoldopam increases renal blood flow and has been tried to reduce the renal toxicity that may be associated with use of contrast media (see Effects on the Kidneys under Adverse Effects of Amidotrizoic Acid, p.1476). Small studies in patients at risk of renal toxicity have shown benefit with fenoldopam,[1,2] but larger randomised trials[3,4] have found no advantage with fenoldopam plus hydration compared with hydration using sodium chloride 0.45% alone. However, a later meta-analysis[5] in patients undergoing cardiovascular surgery, who are at risk of acute renal failure, found that fenoldopam consistently reduced the need for renal replacement therapy, and reduced mortality.

A study[6] in patients undergoing liver transplantation (p.1815) suggested that fenoldopam may have a role in preserving renal function, possibly by counteracting the renal toxicity associated with ciclosporin.

1. Chu VL, Cheng JWM. Fenoldopam in the prevention of contrast media-induced acute renal failure. *Ann Pharmacother* 2001; **35:** 1278–82. Correction. *ibid.*; 1677.
2. Lepor NE. A review of contemporary prevention strategies for radiocontrast nephropathy: a focus on fenoldopam and N-acetylcysteine. *Rev Cardiovasc Med* 2003; **4** (suppl 1): S15–S20.
3. Allaqaband S, *et al.* Prospective randomized study of N-acetylcysteine, fenoldopam, and saline for prevention of radiocontrast-induced nephropathy. *Catheter Cardiovasc Interv* 2002; **57:** 279–83.
4. Stone GW, *et al.* Fenoldopam mesylate for the prevention of contrast-induced nephropathy: a randomized controlled trial. *JAMA* 2003; **290:** 2284–91.
5. Landoni G, *et al.* Fenoldopam reduces the need for renal replacement therapy and in-hospital death in cardiovascular surgery: a meta-analysis. *J Cardiothorac Vasc Anesth* 2008; **22:** 27–33.
6. Biancofiore G, *et al.* Use of fenoldopam to control renal dysfunction early after liver transplantation. *Liver Transpl* 2004; **10:** 986–92.

Preparations

USP 31: Fenoldopam Mesylate Injection.

Proprietary Preparations (details are given in Part 3)
Irl.: Corlopam†; ***Ital.:*** Corlopam; ***Neth.:*** Corlopam; ***USA:*** Corlopam.

Fenquizone *(USAN, rINN)* ⊗

Fenquizona; Fenquizonum; MG-13054. 7-Chloro-1,2,3,4-tetrahydro-4-oxo-2-phenylquinazoline-6-sulphonamide.

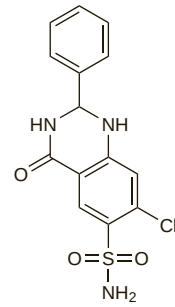
Фенхизон

$C_{14}H_{12}ClN_3O_3S$ = 337.8.

CAS — 20287-37-0.

ATC — C03BA13.

ATC Vet — QC03BA13.



Fenquizone Potassium *(rINNM)* ⊗

Fenquizona potásica; Fenquizone Potassique; Kalii Fenquizonum.

Калия Фенхизон

$C_{14}H_{12}ClN_3O_3S,K$ = 376.9.

CAS — 52246-40-9.

ATC — C03BA13.

ATC Vet — QC03BA13.

Profile

Fenquizone potassium is a diuretic that is given orally in the treatment of oedema and hypertension (p.1171) in doses equivalent to 10 to 20 mg of fenquizone daily. 11.2 mg of the potassium salt is equivalent to about 10 mg of the base.

◊ References.

1. Beermann B, Grind M. Clinical pharmacokinetics of some newer diuretics. *Clin Pharmacokinet* 1987; **13:** 254–66.
2. Costa FV, *et al.* Hemodynamic and humoral effects of chronic antihypertensive treatment with fenquizone: importance of aldosterone response. *J Clin Pharmacol* 1990; **30:** 254–61.

Preparations

Proprietary Preparations (details are given in Part 3)
Ital.: Idrolone.

Fibrinolysin

Fibrinolysin (Human) *(BAN, rINN)*; Fibrinase; Fibrinolisina (humana); Fibrinolysine (humaine); Fibrinolysinum (humanum); Plasmiini; Plasmin; Plasminum.

Фибринолизин (Человека)

CAS — 9001-90-5 (fibrinolysin); 9004-09-5 (human fibrinolysin).

ATC — B01AD05.

ATC Vet — QB01AD05.

NOTE. In *Martindale* the term fibrinolysin is used for the exogenous substance and plasmin for the endogenous substance.

Profile

Fibrinolysin is a proteolytic enzyme derived from the activation of human plasminogen. Fibrinolysin derived from cattle (bovine fibrinolysin) and other animals is also available. Fibrinolysin converts fibrin into soluble products and also hydrolyses some other proteins. The role of plasmin (endogenous fibrinolysin) in the control of haemostasis is described further on p.1045.

Fibrinolysin is used (generally as bovine fibrinolysin) with deoxyribonuclease for the debridement of wounds. It was formerly given parenterally for the treatment of thrombotic disorders. A modified form of fibrinolysin, microplasmin, is under investigation for use in ophthalmic surgery.