intrarenal obstruction by crystalline deposits, and an interaction with NSAIDs (see under Interactions, below).[13] Elderly patients may be particularly at risk.[12]

1. Ettinger B, *et al.* Triamterene-induced nephrolithiasis. *Ann Intern Med* 1979; **91:** 745–6.
2. Socolow EL. Triamterene-induced nephrolithiasis. *Ann Intern Med* 1980; **92:** 437.
3. Gault MH, *et al.* Triamterene urolithiasis. *Can Med Assoc J* 1981; **124:** 1556–7.
4. Grunberg RW, Silberg SJ. Triamterene-induced nephrolithiasis. *JAMA* 1981; **245:** 2494–5.
5. Fairley KF, *et al.* Abnormal urinary sediment in patients on triamterene. *Lancet* 1983; **i:** 421–2.
6. Spence JD, *et al.* Effects of triamterene and amiloride on urinary sediment in hypertensive patients taking hydrochlorothiazide. *Lancet* 1985; **ii:** 73–5.
7. Ettinger B, *et al.* Triamterene nephrolithiasis. *JAMA* 1980; **244:** 2443–5.
8. White DJ, Nancollas GH. Triamterene and renal stone formation. *J Urol (Baltimore)* 1982; **127:** 593–7.
9. Werness PG, *et al.* Triamterene urolithiasis: solubility, pK, effect on crystal formation, and matrix binding of triamterene and its metabolites. *J Lab Clin Med* 1982; **99:** 254–62.
10. Jick H, *et al.* Triamterene and renal stones. *J Urol (Baltimore)* 1982; **127:** 224–5.
11. Woolfson RG, Mansell MA. Does triamterene cause renal calculi? *BMJ* 1991; **303:** 1217–18.
12. Lynn KL, *et al.* Renal failure with potassium-sparing diuretics. *N Z Med J* 1985; **98:** 629–33.
13. Sica DA, Gehr TWB. Triamterene and the kidney. *Nephron* 1989; **51:** 454–61.

Effects on the skin. Photodermatitis has been reported in a patient taking triamterene.[1] Pseudoporphyria, possibly associated with exposure to sunlight, occurred in a patient with vitiligo during treatment with triamterene and hydrochlorothiazide.[2]

1. Fernández de Corres L, *et al.* Photodermatitis from triamterene. *Contact Dermatitis* 1987; **17:** 114–15.
2. Motley RJ. Pseudoporphyria due to Dyazide in a patient with vitiligo. *BMJ* 1990; **300:** 1468.

Precautions

As for Amiloride Hydrochloride, p.1209. Triamterene should also be given with caution to patients with hyperuricaemia or gout, or a history of renal calculi. Patients with depleted folic acid stores such as those with hepatic cirrhosis may be at increased risk of megaloblastic anaemia.

Triamterene may interfere with the fluorescent measurement of quinidine. It may slightly colour the urine blue.

Interactions

As for Amiloride Hydrochloride, p.1209.

Digoxin. For a report of the effect of triamterene on digoxin, see p.1262.

Dopaminergics. For a report of increased *amantadine* toxicity associated with hydrochlorothiazide and triamterene, see p.793.

NSAIDs. There have been several reports of renal failure in patients taking triamterene and NSAIDs.[1,2] Both types of drug are nephrotoxic and in combination the effect appears to be additive.[3-5] It has been suggested that the suppression of urinary prostaglandins by NSAIDs could potentiate the nephrotoxic effects of triamterene.[1]

NSAIDs may also antagonise the diuretic action of triamterene.[6]

1. Favre L, *et al.* Reversible acute renal failure from combined triamterene and indomethacin: a study in healthy subjects. *Ann Intern Med* 1982; **96:** 317–20.
2. Härkönen M, Ekblom-Kullberg S. Reversible deterioration of renal function after diclofenac in patient receiving triamterene. *BMJ* 1986; **293:** 698–9.
3. Bailey RR. Adverse renal reactions to non-steroidal anti-inflammatory drugs and potassium-sparing diuretics. *Adverse Drug React Bull* 1988; (Aug.): 492–5.
4. Lynn KL, *et al.* Renal failure with potassium-sparing diuretics. *N Z Med J* 1985; **98:** 629–33.
5. Sica DA, Gehr TWB. Triamterene and the kidney. *Nephron* 1989; **51:** 454–61.
6. Webster J. Interactions of NSAIDs with diuretics and β-blockers: mechanisms and clinical implications. *Drugs* 1985; **30:** 32–41.

Pharmacokinetics

Triamterene is variably but fairly rapidly absorbed from the gastrointestinal tract. The bioavailability has been reported to be about 50%. The plasma half-life has been reported to be about 2 hours. It is estimated to be about 60% bound to plasma proteins. It is extensively metabolised and is mainly excreted in the urine in the form of metabolites with some unchanged triamterene. Triamterene crosses the placenta and may be distributed into breast milk.

◊ References.

1. Pruitt AW, *et al.* Variations in the fate of triamterene. *Clin Pharmacol Ther* 1977; **21:** 610–19.
2. Gundert-Remy U, *et al.* Plasma and urinary levels of triamterene and certain metabolites after oral administration to man. *Eur J Clin Pharmacol* 1979; **16:** 39–44.
3. Gilfrich HJ, *et al.* Pharmacokinetics of triamterene after iv administration to man: determination of bioavailability. *Eur J Clin Pharmacol* 1983; **25:** 237–41.
4. Sörgel F, *et al.* Oral triamterene disposition. *Clin Pharmacol Ther* 1985; **38:** 306–12.

Hepatic impairment. Triamterene clearance was markedly decreased in 7 patients with alcoholic cirrhosis and ascites.[1] The diuretic effect lasted for up to 48 hours in cirrhotic patients compared with 8 hours in healthy controls.

1. Villeneuve JP, *et al.* Triamterene kinetics and dynamics in cirrhosis. *Clin Pharmacol Ther* 1984; **35:** 831–7.

Renal impairment. Urinary excretion of triamterene and its metabolite, hydroxytriamterene sulfate, was significantly reduced in patients with renal impairment[1] and in the elderly whose renal function was reduced.[2] Accumulation of the active metabolite was possible in patients with renal impairment.[1]

1. Knauf H, *et al.* Delayed elimination of triamterene and its active metabolite in chronic renal failure. *Eur J Clin Pharmacol* 1983; **24:** 453–6.
2. Williams RL, *et al.* Absorption and disposition of two combination formulations of hydrochlorothiazide and triamterene: influence of age and renal function. *Clin Pharmacol Ther* 1986; **40:** 226–32.

Uses and Administration

Triamterene is a weak diuretic with potassium-sparing properties which has actions and uses similar to those of amiloride (p.1210). It produces a diuresis in about 2 to 4 hours, with a duration of 7 to 9 hours. The full therapeutic effect may be delayed until after several days of treatment.

Triamterene adds to the natriuretic but diminishes the kaliuretic effects of other diuretics. It is mainly used, as an adjunct to thiazide diuretics such as hydrochlorothiazide and loop diuretics such as furosemide, to conserve potassium in those at risk from hypokalaemia during the treatment of refractory oedema associated with hepatic cirrhosis, heart failure (p.1165), and the nephrotic syndrome. It is also used with other diuretics in the treatment of hypertension (p.1171).

When triamterene is given alone in the treatment of **oedema**, the oral dosage range is 150 to 250 mg daily, given in 2 divided doses, after breakfast and lunch. Doses may be given on alternate days for maintenance therapy. More than 300 mg daily should not be given.

Smaller doses are used initially when other diuretics are also given. When used with hydrochlorothiazide, for example, in the treatment of **hypertension**, an initial dose of 50 mg of triamterene daily may be used.

Potassium supplements should not be given.

Preparations

BP 2008: Co-triamterzide Tablets; Triamterene Capsules;
USP 31: Triamterene and Hydrochlorothiazide Capsules; Triamterene and Hydrochlorothiazide Tablets; Triamterene Capsules.

Proprietary Preparations (details are given in Part 3)
Belg.: Dytac; ***Canad.:*** Dyrenium†; ***Neth.:*** Dytac†; ***UK:*** Dytac; ***USA:*** Dyrenium.

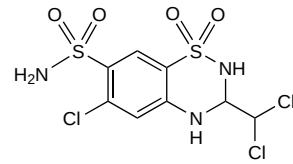
Multi-ingredient: ***Austral.:*** Hydrene; ***Austria:*** Confit; Dytide H; Hydrotrix; Salodiur; Triamteren comp; Triastad HCT; Trioral/HCT; ***Belg.:*** Diucomb†; Dyta-Urese; Dytenzide; ***Braz.:*** Diurana; Iguassina; ***Canad.:*** Apo-Triazide; Novo-Triamzide; Nu-Triazide; ***Chile:*** Drinamil; Hidroronol T; Uren; ***Fin.:*** Furesis comp; Uretren Comp; ***Fr.:*** Isobar; Prestole; ***Ger.:*** Beta-Turfa; dehydro sanol tri; Diu Venostasin; Diucomb; Diuretikum Verla; Diutensat comp†; Diutensat†; Dociteren; duradiuret†; Dytide H; Haemiton compositum†; Hydrotrix; Jenateren comp†; Neotri; Nephral; Propra comp; Sali-Puren†; Thiazid-comp; Tri-Thiazid; Tri-Thiazid Reserpin†; Triampur Compositum; Triamteren comp; Triamteren HCT; Triamteren tri-comp; Triamteren-H†; Triarese; triazid†; Turfa; Veratide; ***Hong Kong:*** Apo-Triazide; Dyazide; Triam-Co†; ***India:*** Ditide; ***Irl.:*** Dyazide; ***Ital.:*** Fluss 40; ***Malaysia:*** Apo-Triazide†; ***Mex.:*** Dyazide; ***Neth.:*** Dyta-Urese; Dytenzide; ***NZ:*** Triamizide; ***Port.:*** Dyazide; Triam Tiazida R; ***Rus.:*** Apo-Triazide (Апотриазид); Triam-Co (Триам-ко); Triampur Compositum (Триампур Композитум); ***S.Afr.:*** Dyazide; Renezide; ***Singapore:*** Apo-Triazide; ***Spain:*** Salidur; ***Switz.:*** Dyazide; Dyrenium compositum; t/h-basan; ***Thai.:*** Dazid†; Dinazide; Dyazide; Dyterene†; ***Turk.:*** Triamteril; ***UK:*** Dyazide; Dytide; Frusene; Kalspare; Triamaxco†; Triamco; ***USA:*** Dyazide; Maxzide.

Trichlormethiazide *(rINN)* ⊗

Trichlorméthiazide; Trichlormethiazidum; Triclormetiazida; Triklоorimetiatsidi; Triklormetiazid. 6-Chloro-3-dichloromethyl-3,4-dihydro-2*H*-1,2,4-benzothiadiazine-7-sulphonamide 1,1-dioxide.

Трихлорметиазид

$C_8H_8Cl_3N_3O_4S_2$ = 380.7.
CAS — 133-67-5.
ATC — C03AA06.
ATC Vet — QC03AA06.



Pharmacopoeias. In *Jpn* and *US*.
USP 31 (Trichlormethiazide). A white or practically white, crystalline powder, odourless or with a slight characteristic odour. Soluble 1 in 1100 of water, 1 in 48 of alcohol, 1 in 5000 of chloroform, 1 in about 4 of dimethylformamide, 1 in about 9 of dioxan, and 1 in 1400 of ether; freely soluble in acetone; soluble in methyl alcohol.

Profile

Trichlormethiazide is a thiazide diuretic with properties similar to those of hydrochlorothiazide (p.1307). It is given orally for oedema, including that associated with heart failure (p.1165), and for hypertension (p.1171).

Diuresis begins about 2 hours after an oral dose, and lasts about 24 hours.

In the treatment of oedema the usual dose is 1 to 4 mg daily or intermittently. In the treatment of hypertension the usual dose is 2 to 4 mg daily, either alone, or with other antihypertensives. In some patients 1 mg daily may be adequate. In children over 6 months of age a dose of 70 micrograms/kg daily in one or two doses has been used.

Preparations

USP 31: Trichlormethiazide Tablets.

Proprietary Preparations (details are given in Part 3)
USA: Diurese†; Metahydrin†; Naqua†.

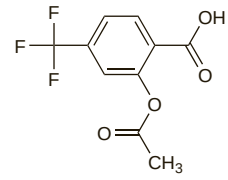
Multi-ingredient: ***Fin.:*** Uretren Comp; ***Ger.:*** Esmalorid†; ***Spain:*** Rulun; ***USA:*** Metatensin†.

Triflusal *(BAN, rINN)*

Triflusaali; Triflusalis; Triflusalum; Trifluzál; UR-1501. 2-Acetoxy-4-trifluoromethylbenzoic acid; *O*-Acetyl-4-(trifluoromethyl)salicylic acid.

Трифлусал

$C_{10}H_7F_3O_4$ = 248.2.
CAS — 322-79-2.
ATC — B01AC18.
ATC Vet — QB01AC18.



Pharmacopoeias. In *Eur.* (see p.vii).
Ph. Eur. 6.2 (Triflusal). A white or almost white crystalline powder. Practically insoluble in water; very soluble in dehydrated alcohol; freely soluble in dichloromethane. Store in airtight containers at a temperature not exceeding 25°.

Profile

Triflusal is an inhibitor of platelet aggregation used in the management of thromboembolic disorders (p.1187) in usual oral doses of 300 to 900 mg daily.

◊ References.

1. Murdoch D, Plosker GL. Triflusal: a review of its use in cerebral infarction and myocardial infarction, and as thromboprophylaxis in atrial fibrillation. *Drugs* 2006; **66:** 671–92.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Disgren; ***Braz.:*** Disgren; ***Chile:*** Logrosal†; ***Gr.:*** Aflen; Reoflen; ***Hung.:*** Disgren; ***Ital.:*** Triflux; ***Mex.:*** Disgren; ***Port.:*** Tecnosal; ***Spain:*** Anpeval; Disgren; ***Venez.:*** Disgren.

Trimetaphan Camsilate *(BAN, rINN)*

Cansilato de trimetafán; Méthioplégium; Trimetaphan Camphorsulfonate; Trimétaphan, Camsilate de; Trimetaphan Camsylate; Trimetaphani Camsilas; Trimetaphani Camsylas; Trimethaphan Camsylate. (+)-1,3-Dibenzylperhydro-2-oxothieno-[1′,2′:1,2]thieno[3,4-*d*]-imidazol-5-ium 2-oxobornane-10-sulfonate; 4,6-Dibenzyl-4,6-diaza-1-thioniatricyclo[6.3.0.0^{3,7}]undecan-5-one 2-oxobornane-10-sulfonate.

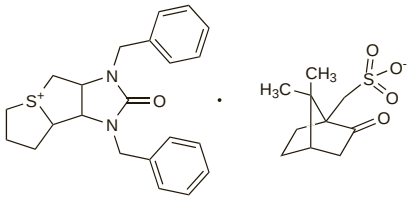
Триметафана Камзилат

$C_{22}H_{25}N_2OS,C_{10}H_{15}O_4S$ = 596.8.

CAS — 7187-66-8 (trimetaphan); 68-91-7 (trimetaphan camsilate).

ATC — C02BA01.

ATC Vet — QC02BA01.



Incompatibility. Trimetaphan is incompatible with thiopental sodium, gallamine triethiodide, iodides, bromides, and strongly alkaline solutions.

Adverse Effects and Treatment

The adverse effects of trimetaphan are mainly due to ganglionic blockade. A reduction in gastrointestinal motility may cause constipation and, on prolonged use, paralytic ileus. Urinary retention, cycloplegia, mydriasis, tachycardia, precipitation of angina, and gastrointestinal disturbances such as anorexia, nausea, or vomiting, may occur. Orthostatic hypotension may be severe. Rapid intravenous infusion can result in respiratory arrest. Other adverse effects include raised intra-ocular pressure, dry mouth, hypoglycaemia, hypokalaemia, fluid retention, weakness, urticaria, and itching. Trimetaphan crosses the placenta and can cause paralytic or meconium ileus in the neonate.

If severe hypotension occurs, trimetaphan should be stopped and the patient positioned with the head lower than the feet. A vasopressor may be given cautiously if necessary.

Effects on the eyes. Although trimetaphan may increase intraocular pressure, a sudden and dramatic reduction of intra-ocular pressure to very low levels was noted in 5 patients undergoing surgery when the systolic blood pressure was reduced to 60 mmHg with trimetaphan infusion.[1]

1. Dias PLR, *et al*. Effect on the intraocular pressure of hypotensive anaesthesia with intravenous trimetaphan. *Br J Ophthalmol* 1982; **66:** 721–4.

Precautions

Trimetaphan should be avoided in patients with asphyxia or respiratory insufficiency, uncorrected anaemia, shock or hypovolaemia, severe arteriosclerosis, severe ischaemic heart disease, or pyloric stenosis and should only be used with extreme caution in those with hepatic or renal impairment, degenerative disease of the CNS, Addison's disease, prostatic hyperplasia, glaucoma, cerebral or coronary vascular insufficiency, and diabetes. It should be used with care in elderly or debilitated patients and should be avoided in pregnancy. Owing to a histamine-liberating effect it should be used with caution in allergic subjects.

Interactions

Trimetaphan should be used with caution in patients being treated with other antihypertensives, drugs that depress cardiac function, or muscle relaxants, and in those taking NSAIDs or corticosteroids. The hypotensive effect is enhanced by general and spinal anaesthetics. Adrenaline should not be infiltrated locally at the site of incision when trimetaphan is being given since this may antagonise the effect of trimetaphan.

Neuromuscular blockers. For a reference to possible potentiation of neuromuscular blockade by trimetaphan, see Ganglion Blockers, under Interactions of Atracurium, p.1904.

Uses and Administration

Trimetaphan is a ganglion blocker that inhibits the transmission of nerve impulses in both sympathetic and parasympathetic ganglia. The sympathetic blockade produces peripheral vasodilatation. Trimetaphan also has a direct vasodilator effect on peripheral blood vessels. It has been used for inducing controlled hypotension during surgical procedures; it acts rapidly to produce a hypotensive response which persists for about 10 to 15 minutes. Trimetaphan has also been used for the emergency treatment of hypertensive crises (p.1171), especially in the presence of pulmonary oedema or acute dissecting aortic aneurysms. However, sodium nitroprusside is now preferred.

Trimetazidine Hydrochloride *(BANM, rINNM)*

Hidrocloruro de trimetazidina; Trimetatsidiinidihydrokloridi; Trimetazidin Hidroklorür; Trimetazidindihidroklorid; Trimetazidindihydrochlorid; Trimetazidindihydroklorid; Trimétazidine, Chlorhydrate de; Trimétazidine, dichlorhydrate de; Trimetazidine Dihydrochloride; Trimetazidini dihydrochloridum; Trimetazidini Hydrochloridum; Trimetazidino hidrochloridas; Trimetazine Hydrochloride. 1-(2,3,4-Trimethoxybenzyl)piperazine dihydrochloride.

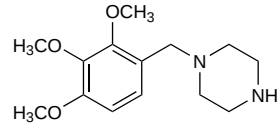
Триметазидина Гидрохлорид

$C_{14}H_{22}N_2O_3$,2HCl = 339.3.

CAS — 5011-34-7 (trimetazidine); 13171-25-0 (trimetazidine hydrochloride).

ATC — C01EB15.

ATC Vet — QC01EB15.



(trimetazidine)

Pharmacopoeias. In *Eur.* (see p.vii) and *Jpn.*

Ph. Eur. 6.2 (Trimetazidine Dihydrochloride; Trimetazidine Hydrochloride BP 2008). A slightly hygroscopic, white or almost white crystalline powder. Freely soluble in water; sparingly soluble in alcohol. Store in airtight containers.

Profile

Trimetazidine hydrochloride is used in angina pectoris (p.1157) and in ischaemia of neurosensorial tissues as in Ménière's disease (p.564); 40 to 60 mg is given daily by mouth in divided doses.

◊ References.

1. McClellan KJ, Plosker GL. Trimetazidine: a review of its use in stable angina pectoris and other coronary conditions. *Drugs* 1999; **58:** 143–57.
2. Ciapponi A, *et al*. Trimetazidine for stable angina. Available in The Cochrane Database of Systematic Reviews; Issue 4. Chichester: John Wiley; 2005 (accessed 24/01/06).
3. Danchin N. Clinical benefits of a metabolic approach with trimetazidine in revascularized patients with angina. *Am J Cardiol* 2006; **98** (suppl): 8J–13J.

Effects on the nervous system. Eight elderly patients aged between 72 and 94 years were reported[1] to have developed signs of parkinsonism while taking trimetazidine; the parkinsonism regressed completely when the drug was stopped. A retrospective study[2] found that adverse effects on motor function, including parkinsonism, gait disorders, and tremor, occurred in 56 of 130 patients taking trimetazidine and were more common in older patients.

1. Marti Massó JF. Parkinsonismo por trimetazidina. *Neurologia* 2004; **19:** 392–5.
2. Martí Massó J-F, *et al*. Trimetazidine induces parkinsonism, gait disorders and tremor. *Therapie* 2005; **60:** 419–22.

Preparations

Proprietary Preparations (details are given in Part 3)
Arg.: Vastarel; ***Austria:*** Vastarel; ***Braz.:*** Vastarel; ***Chile:*** Vastarel; ***Cz.:*** Adexor; Preductal; ***Denm.:*** Vastarel; ***Fr.:*** Centrophene†; Vastarel; ***Gr.:*** Atanol; Imovexil; Intervein; Latrimet†; Liomagen; Novazidine; Trimedin; Trimedor; Trimevert; Vastarel; Zidin; ***Hong Kong:*** Vastarel; ***Hung.:*** Adexor; Preductal; ***India:*** Flavedon; Mayozest; Metacard; Metagard; Trivedon; ***Indon.:*** Trizedon; ***Irl.:*** Vastarel; ***Ital.:*** Vastarel; ***Malaysia:*** Metagard; Vastarel; ***Philipp.:*** Angirel; Vastarel; ***Pol.:*** Metazydyna; Preductal; Trimetaratio; ***Port.:*** Tacirel; Vastarel; ***Rus.:*** Deprenorm (Депренорм); Medarum (Медарум); Preductal (Предуктал); Rimecor (Римекор); Trimetazide (Триметазид); ***Singapore:*** Metagard; Vastarel; ***Spain:*** Idaptan; Vaso Rimal†; ***Thai.:*** Matenol; Trizidine; Vastarel; Vastinol; ***Turk.:*** Vastarel; ***Venez.:*** Vastarel.

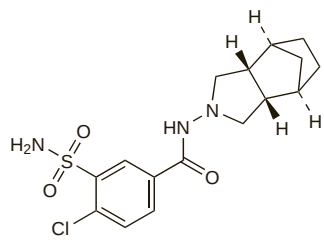
Tripamide *(USAN, rINN)* ⊗

ADR-033; E-614; Tripamida; Tripamidum. 4-Chloro-*N*-(*endo*-hexahydro-4,7-methanoisoindolin-2-yl)-3-sulphamoylbenzamide.

Трипамид

$C_{16}H_{20}ClN_3O_3S$ = 369.9.

CAS — 73803-48-2.



Profile

Tripamide is a diuretic structurally related to indapamide. It is used in the treatment of hypertension.

Preparations

Proprietary Preparations (details are given in Part 3)
Thai.: Normonal.

Urapidil *(BAN, rINN)*

B-66256M; Urapidili; Urapidilum. 6-[3-(4-o-Methoxyphenylpiperazin-1-yl)propylamino]-1,3-dimethyluracil.

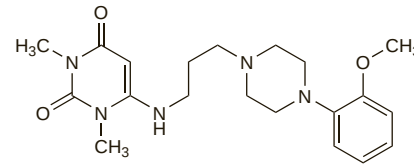
Урапидил

$C_{20}H_{29}N_5O_3$ = 387.5.

CAS — 34661-75-1.

ATC — C02CA06.

ATC Vet — QC02CA06.



Pharmacopoeias. In *Jpn.*

Urapidil Hydrochloride *(BANM, rINNM)*

Hidrocloruro de urapidil; Urapidil, Chlorhydrate d'; Urapidili Hydrochloridum.

Урапидила Гидрохлорид

$C_{20}H_{29}N_5O_3$,HCl = 423.9.

CAS — 64887-14-5.

ATC — C02CA06.

ATC Vet — QC02CA06.

Adverse Effects and Precautions

Urapidil is reported to be well-tolerated, with adverse effects generally transient and most frequent at the beginning of therapy. Dizziness, nausea, headache, fatigue, orthostatic hypotension, palpitations, nervousness, pruritus, and allergic skin reactions have been reported.

It should be used with care in elderly patients and those with severe hepatic impairment. Intravenous urapidil should not be used in patients with aortic stenosis.

Urinary incontinence. Enuresis was reported[1] to be associated with the use of urapidil in 2 elderly patients.

1. Jonville A-P, *et al*. Urapidil and enuresis. *Lancet* 1992; **339:** 688.

Pharmacokinetics

After oral doses urapidil is rapidly absorbed with a reported bioavailability of 70 to 80%. It is reported to be about 80% bound to plasma proteins. Urapidil is extensively metabolised in the liver, mainly by hydroxylation, and excreted mostly in urine, as metabolites and 10 to 20% of unchanged drug. The elimination half-life is reported to be about 4.7 hours when given orally as capsules and about 2.7 hours after intravenous dosage.

◊ Reviews.

1. Kirsten R, *et al*. Clinical pharmacokinetics of urapidil. *Clin Pharmacokinet* 1988; **14:** 129–40.

Uses and Administration

Urapidil is an antihypertensive drug that is reported to block peripheral alpha$_1$ adrenoceptors (see Alpha Blockers, p.1153) and to have central actions. It produces a reduction in peripheral resistance and a fall in systolic and diastolic blood pressure, usually without reflex tachycardia.

Urapidil is used in the management of hypertension (p.1171), including hypertensive crises.

Urapidil is given orally as the base and intravenously as the hydrochloride, but doses are usually expressed in terms of the base. Urapidil hydrochloride 10.94 mg is equivalent to about 10 mg of urapidil. Urapidil fumarate has also been given orally.

In hypertension doses of 30 to 90 mg are given twice daily by mouth. In hypertensive crises a suggested regimen is to give an initial dose of 25 mg by slow intravenous injection over 20 seconds, repeated if necessary after 5 minutes. This may be followed by a dose of 50 mg after a further 5 minutes if the response is still inadequate. Treatment should continue with a maintenance infusion of 9 to 30 mg/hour once the blood pressure is sufficiently reduced.

◊ Reviews.

1. Dooley M, Goa KL. Urapidil: a reappraisal of its use in the management of hypertension. *Drugs* 1998; **56:** 929–55.

Preparations

Proprietary Preparations (details are given in Part 3)
Austria: Ebrantil; ***Belg.:*** Ebrantil; ***Cz.:*** Ebrantil; ***Fr.:*** Eupressyl; Mediatensyl; ***Ger.:*** Ebrantil; ***Hung.:*** Ebrantil; ***Ital.:*** Ebrantil; ***Neth.:*** Ebrantil; ***Pol.:*** Ebrantil; ***Port.:*** Ebrantil; ***Spain:*** Elgadil; ***Switz.:*** Ebrantil.