Gadodiamide *(BAN, USAN, rINN)*

Gadodiamid; Gadodiamida; Gadodiamidi; Gadodiamidum; Gd-DTPA-BMA; S-041. [*N*,*N*-Bis(2-{(carboxymethyl)[(methylcarbamoyl)methyl]amino}ethyl)glycinato(3–)]gadolinium; a complex of gadolinium with diethylenetriamine penta-acetic acid bis-methylamide.

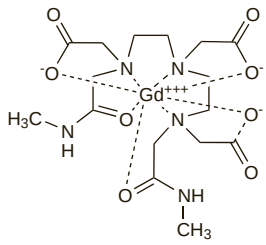
Гадодиамид

$C_{16}H_{26}GdN_5O_8$ = 573.7.

CAS — 131410-48-5 (anhydrous gadodiamide); 122795-43-1 (gadodiamide hydrate).

ATC — V08CA03.

ATC Vet — QV08CA03.



Pharmacopoeias. In *US.*

USP 31 (Gadodiamide). A white, odourless, powder. Freely soluble in water and in methyl alcohol; soluble in alcohol; slightly soluble in acetone and in chloroform. Store in airtight containers.

Adverse Effects and Precautions

As for Gadopentetic Acid, below.

Effects on the pancreas. Acute pancreatitis developed in a patient shortly after injection of gadodiamide for hepatic imaging.[1] Another patient[2] developed both acute pancreatitis and acute renal failure after use of gadodiamide for angiography.

1. Terzi C, Sökmen S. Acute pancreatitis induced by magnetic-resonance-imaging contrast agent. *Lancet* 1999; **354:** 1789–90. Correction. *ibid.* 2000; **355:** 660.
2. Schenker MP, *et al.* Gadolinium arteriography complicated by acute pancreatitis and acute renal failure. *J Vasc Interv Radiol* 2001; **12:** 393.

Interference with diagnostic tests. Gadodiamide may interfere with colorimetric methods for measuring serum calcium concentrations, resulting in falsely low measurements. Severe pseudohypocalcaemia has been reported[1-3] after the use of gadodiamide, particularly in patients with renal impairment.[2] There is also *in vitro* evidence that a similar interference may occur with gadoversetamide.[2]

1. Doorenbos CJ, *et al.* Severe pseudohypocalcemia after gadolinium-enhanced magnetic resonance angiography. *N Engl J Med* 2003; **349:** 817–18.
2. Prince MR, *et al.* Gadodiamide administration causes spurious hypocalcemia. *Radiology* 2003; **227** 639–46.
3. Williams SF, *et al.* Spurious hypocalcemia after gadodiamide administration. *Mayo Clin Proc* 2005; **80:** 1655–7.

Renal impairment. For the view that gadodiamide may carry a particular risk of the development of nephrogenic systemic sclerosis in patients with renal impairment, see p.1479.

Pharmacokinetics

Gadodiamide is rapidly distributed into extracellular fluid. About 96% of a dose is excreted unchanged in the urine within 24 hours. An elimination half-life of about 70 minutes has been reported. Gadodiamide is not bound to plasma proteins. It is removed by haemodialysis.

Uses and Administration

Gadodiamide is a nonionic gadolinium chelate with actions and uses similar to those of gadopentetic acid (p.1480). It has paramagnetic properties and is used as a magnetic resonance contrast medium (p.1474). It distributes mainly into extracellular fluid, but does not cross the blood-brain barrier, and is used in imaging of cranial and spinal structures, imaging of the whole body, angiography, and mammography.

Gadodiamide is available as a solution containing 287 mg/mL (0.5 mmol/mL). Usual doses are:

- cranial and spinal imaging: for adults and children, 0.2 mL/kg (0.1 mmol/kg). Adults may be given a second dose of 0.4 mL/kg (0.2 mmol/kg) within 20 minutes if required.
- whole body imaging: for adults and children, 0.2 mL/kg (0.1 mmol/kg)
- kidneys: 0.1 mL/kg (0.05 mmol/kg) may be adequate
- angiography: for adults, 0.2 mL/kg (0.1 mmol/kg)
- mammography: 0.2 to 0.4 mL/kg (0.1 to 0.2 mmol/kg).

Preparations

USP 31: Gadodiamide Injection.

Proprietary Preparations (details are given in Part 3)
Arg.: Omniscan†; ***Austral.:*** Omniscan; ***Austria:*** Omniscan; ***Belg.:*** Omniscan; ***Braz.:*** Omniscan†; ***Canad.:*** Omniscan; ***Chile:*** Omniscan; ***Cz.:*** Omniscan; ***Denm.:*** Omniscan; ***Fin.:*** Omniscan; ***Fr.:*** Omniscan; ***Ger.:*** Omniscan; ***Gr.:*** Omniscan; ***Hung.:*** Omniscan; ***Israel:*** Omniscan; ***Ital.:*** Omniscan; ***Jpn:*** Omniscan; ***Neth.:*** Omniscan; ***Norw.:*** Omniscan; ***NZ:*** Omniscan; ***Port.:*** Omniscan; ***Rus.:*** Omniscan (Омнискан)†; ***Spain:*** Omniscan; ***Swed.:*** Omniscan; ***Switz.:*** Omniscan; ***UK:*** Omniscan; ***USA:*** Omniscan; ***Venez.:*** Omniscan†.

Gadofosveset Trisodium *(USAN, rINNM)*

Gadofosveset trisódico; Gadofosvéset Trisodique; Gadofosvesetum Trinatricum; MS-32520; MS-325 (gadofosveset). Trisodium (*N*-{2-[bis(carboxymethyl)amino]ethyl}-*N*-{(*R*)-2-[bis(carboxymethyl)amino]-3-hydroxypropyl}glycine 4,4-diphenylcyclohexyl hydrogen phosphato(6–))gadolinate(3–).

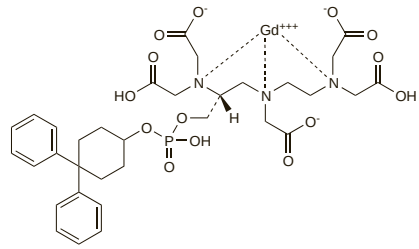
Тринатрий Гадофосвезет

$C_{33}H_{38}GdN_3Na_3O_{14}P$ = 957.9.

CAS — 201688-00-8 (gadofosveset); 193901-90-5 (gadofosveset trisodium).

ATC — V08CA11.

ATC Vet — QV08CA11.



(gadofosveset)

Profile

Gadofosveset is a gadolinium chelate used as a paramagnetic contrast medium (p.1474) in magnetic resonance angiography. It binds to plasma proteins, particularly albumin, and therefore acts as a blood pool agent, allowing visualisation of the vasculature.

Gadofosveset is given intravenously as the trisodium salt. It is available as a solution containing gadofosveset trisodium 244 mg/mL (0.25 mmol/mL). The usual dose is 0.12 mL/kg (0.03 mmol/kg) by intravenous injection.

◊ References.

1. Henness S, Keating GM. Gadofosveset. *Drugs* 2006; **66:** 851–7.

Preparations

Proprietary Preparations (details are given in Part 3)
Cz.: Vasovist; ***Gr.:*** Vasovist; ***Hung.:*** Vasovist; ***Neth.:*** Vasovist; ***Port.:*** Vasovist; ***UK:*** Vasovist.

Gadopentetic Acid *(BAN, rINN)*

Acide Gadopentétique; Ácido gadopentético; Acidum Gadopenteticum; Gadolinium-DTPA. Dihydrogen (*N*,*N*-bis{2-[bis(carboxymethyl)amino]ethyl}glycinato(5–))gadolinate(2–); a complex of gadolinium with diethylenetriamine penta-acetic acid.

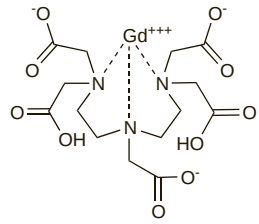
Гадопентетовая Кислота

$C_{14}H_{20}GdN_3O_{10}$ = 547.6.

CAS — 80529-93-7.

ATC — V08CA01.

ATC Vet — QV08CA01.



Meglumine Gadopentetate *(BANM, rINNM)*

Dimeglumine Gadopentetate; Gadopentétate de Méglumine; Gadopentetate Dimeglumine *(USAN)*; Gadopentetate Meglumine; Gadopentétate méglumine; Gadopentetato de meglumina; Meglumini gadopentetas; SH-L-451-A.

Меглумина Гадопентетат

$C_{14}H_{20}GdN_3O_{10}.(C_7H_{17}NO_5)_2$ = 938.0.

CAS — 86050-77-3.

ATC — V08CA01.

ATC Vet — QV08CA01.

Pharmacopoeias. *Chin.* and *US* include only as an injection.

Adverse Effects

There may be headache, nausea, vomiting, and transient sensations of heat or cold or taste disturbances on injection of gadopentetate or other gadolinium chelates. Rarely, convulsions, hypotension, allergic or anaphylactoid reactions, and shock may occur. Paraesthesias, dizziness, and localised pain have also been reported. Transient elevations of serum iron and bilirubin values have been observed. Nephrogenic systemic fibrosis may occur rarely in patients with renal impairment (see under Precautions, below).

◊ General references.

1. Nelson KL, *et al.* Clinical safety of gadopentetate dimeglumine. *Radiology* 1995; **196:** 439–43.

Effects on the nervous system. Subacute encephalopathy has been reported[1] in a woman who was given repeated doses of a gadolinium chelate for magnetic resonance imaging. It was suggested that renal impairment may have contributed to retention of gadolinium, with subsequent diffusion into the CSF.

1. Maramattom BV, *et al.* Gadolinium encephalopathy in a patient with renal failure. *Neurology* 2005; **64:** 1276–8.

Hypersensitivity. Although rare, anaphylactoid reactions have occurred with a number of gadolinium chelates.[1] Severe reactions have been reported with gadopentetate,[2] gadoterate,[3,4] and gadoteridol,[5] including a fatal reaction with gadopentetate.[6] There has also been a report[7] of a severe reaction with gadoteridol in a patient who had previously tolerated gadopentetate. Reactions may occur despite premedication with antihistamines and corticosteroids.[8]

1. Runge VM. Safety of approved MR contrast media for intravenous injection. *J Magn Reson Imaging* 2000; **12:** 205–13.
2. Tardy B, *et al.* Anaphylactic shock induced by intravenous gadopentetate dimeglumine. *Lancet* 1992; **339**: 494.
3. Meuli RA, Maeder P. Life-threatening anaphylactoid reaction after IV injection of gadoterate meglumine. *Am J Roentg* 1996; **166:** 729.
4. Beaudouin E, *et al.* Anaphylactic shock induced by gadoterate meglumine (DOTAREM). *Allerg Immunol (Paris)* 2003; **35:** 382–5.
5. Shellock FG, *et al.* Adverse reaction to intravenous gadoteridol. *Radiology* 1993; **189:** 151–2.
6. Jordan RM, Mintz RD. Fatal reaction to gadopentetate dimeglumine. *Am J Roentg* 1995; **164:** 743–4.
7. Witte RJ, Anzai LL. Life-threatening anaphylactoid reaction after intravenous gadoteridol administration in a patient who had previously received gadopentetate dimeglumine. *Am J Neuroradiol* 1994; **15:** 523–4.
8. Dillman JR, *et al.* Allergic-like breakthrough reactions to gadolinium contrast agents after corticosteroid and antihistamine premedication. *Am J Roentg* 2008; **190:** 187–90.

Precautions

Gadopentetate should not be used in patients with severe renal impairment (GFR less than 30 mL/minute per 1.73 m^2) or with acute renal impairment associated with hepato-renal syndrome or liver transplantation (see Renal Impairment, below). It should be given with care to patients with moderate renal impairment, epilepsy, hypotension, or a history of hypersensitivity, asthma, or other allergic respiratory disorders. Care should be taken to avoid extravasation. Gadopentetate may interfere with tests of serum iron or bilirubin concentrations.

Breast feeding. Studies[1-3] have shown that gadopentetate is distributed into breast milk in very small amounts; the total amount excreted in the milk within 24 hours was less than 0.04% of the intravenous dose in all cases. No adverse effects have been seen in breast-feeding infants whose mothers were receiving gadopentetic acid and the American Academy of Pediatrics considers[4] that it is therefore usually compatible with breast feeding.

1. Schmiedl U, *et al.* Excretion of gadopentetate dimeglumine in human breast milk. *Am J Roentg* 1990; **154:** 1305–6.
2. Rofsky NM, *et al.* Quantitative analysis of gadopentetate dimeglumine excreted in breast milk. *J Magn Reson Imaging* 1993; **3:** 131–2.
3. Kubik-Huch RA, *et al.* Gadopentetate dimeglumine excretion into human breast milk during lactation. *Radiology* 2000; **216:** 555–8.
4. American Academy of Pediatrics. The transfer of drugs and other chemicals into human milk. *Pediatrics* 2001; **108:** 776–89. Correction. *ibid.*; 1029. Also available at: http://aappolicy.aappublications.org/cgi/content/full/pediatrics%3b108/3/776 (accessed 27/03/06)

Myasthenia gravis. Acute deterioration of myasthenia gravis has been reported[1] in a patient after imaging of the brain using gadopentetate.

1. Nordenbo AM, Somnier FE. Acute deterioration of myasthenia gravis after intravenous administration of gadolinium-DTPA. *Lancet* 1992; **340:** 1168.

Renal impairment. Nephrogenic systemic fibrosis (nephrogenic fibrosing dermopathy) is a rare condition that has been reported in patients with renal impairment. Use of gadolinium-containing contrast media appears to be a risk factor;[1-3] most cases have occurred with gadodiamide given in high doses for magnetic resonance angiography, but there have also been reports with other gadolinium-containing contrast media and with lower doses. It has been suggested that the mechanism involves release of free gadolinium ions into the tissues, and that the potential for this varies between the different gadolinium-based contrast media available, with gadodiamide and gadoversetamide more likely to do so.[4] The macrocyclic structure of gadoteridol and gadoterate was thought to be less prone to this effect, but further research is needed. The FDA[5] and the MHRA[6] advise that use of

gadolinium-containing contrast media should be restricted in patients with severe renal impairment (GFR less than 30 mL/minute per 1.73 m^2). The MHRA contra-indicates the use of gadodiamide or gadopentetate in such patients (other gadolinium-containing contrast media are under review), whereas the FDA advises that all gadolinium-containing contrast media should be avoided unless the diagnostic information is essential and cannot be obtained another way. The FDA gives a similar warning for use in patients with acute renal failure associated with hepato-renal syndrome or around the time of liver transplantation. The value of haemodialysis to remove gadolinium-containing contrast media after use is unknown.

1. Perazella MA, Rodby RA. Gadolinium-induced nephrogenic systemic fibrosis in patients with kidney disease. *Am J Med* 2007; **120:** 561–2.
2. Health Canada. Gadolinium-containing contrast agents and nephrogenic systemic fibrosis: update. *Can Adverse React News* 2007; **17** (4): 1–2. Also available at: http://www.hc-sc.gc.ca/dhp-mps/medeff/bulletin/carn-bcei_v17n4-eng.php#1 (accessed 14/07/08)
3. Moreno-Romero JA, *et al.* Nephrogenic systemic fibrosis: a case series suggesting gadolinium as a possible aetiological factor. *Br J Dermatol* 2007; **157:** 783–7.
4. Penfield JG, Reilly RF. Nephrogenic systemic fibrosis risk: is there a difference between gadolinium-based contrast agents? *Semin Dial* 2008; **21:** 129–34.
5. FDA. Gadolinium-containing contrast agents for magnetic resonance imaging (MRI): Omniscan, OptiMARK, Magnevist, ProHance, and MultiHance (issued 08/06/06, updated 22/12/06 and 23/05/07). Available at: http://www.fda.gov/cder/drug/InfoSheets/HCP/gcca_200705.htm (accessed 14/07/08)
6. MHRA/CHM. Gadolinium-containing MRI contrast agents: nephrogenic systemic fibrosis. *Drug Safety Update* 2007; **1** (1): 2–3. Available at: http://www.mhra.gov.uk/home/idcplg?IdcService=GET_FILE&dDocName=CON2031801&RevisionSelectionMethod=LatestReleased (accessed 14/07/08)

Pharmacokinetics

Gadopentetate is rapidly distributed into the extracellular space after intravenous injection. An elimination half-life of 1.6 hours has been reported. It is not metabolised and about 90% of a dose is excreted in the urine within 24 hours. It does not appear to bind to plasma proteins. A small amount is distributed into breast milk. Gadopentetate is removed by haemodialysis.

Uses and Administration

Gadopentetic acid is an ionic gadolinium chelate used as a contrast medium in magnetic resonance imaging (p.1474). Gadolinium has paramagnetic properties that affect the relaxivity of hydrogen ions, increasing the signal intensity and therefore enhancing the contrast between tissues. Chelation of gadolinium reduces its toxicity while retaining its paramagnetic properties; it also affects distribution within the body. Most gadolinium chelates distribute freely into extracellular fluid but do not cross the blood-brain barrier, and they are particularly useful for imaging the brain and associated structures.

Gadopentetic acid is given intravenously as meglumine gadopentetate for contrast enhancement in magnetic resonance imaging of cranial and spinal structures, and of the whole body, and may also be used for evaluation of renal function. It is given by intra-articular injection for arthrography, and has been used orally and rectally in imaging of the gastrointestinal tract.

For cranial, spinal, and whole body imaging, a solution containing meglumine gadopentetate 469.01 mg/mL (0.5 mmol/mL) is used. The usual dose in adults, children, and neonates is 0.2 mL/kg (0.1 mmol/kg) intravenously. For cranial and spinal imaging, a further dose of 0.2 mL/kg (0.1 mmol/kg) may be given within 30 minutes if necessary; in adults this second dose may be 0.4 mL/kg (0.2 mmol/kg). For whole body imaging in adults and children over 2 years, a dose of 0.4 mL/kg (0.2 mmol/kg) may be needed in some cases to produce adequate contrast and in special circumstances a dose of 0.6 mL/kg (0.3 mmol/kg) may be used in adults.

For arthrography a solution containing meglumine gadopentetate 1.876 mg/mL (0.002 mmol/mL) is given by intra-articular injection. The dose depends on the joint being imaged; the usual range is from 1 to 20 mL.

For imaging of the gastrointestinal tract a solution containing meglumine gadopentetate 9.38 mg/mL has been used, diluted further before use.

Preparations

USP 31: Gadopentetate Dimeglumine Injection.

Proprietary Preparations (details are given in Part 3)

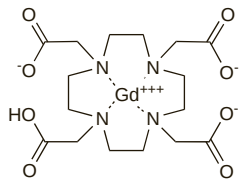
Arg.: Magnevist; Opacite; Viewgam; ***Austral.:*** Magnevist; ***Austria:*** Magnevist; ***Belg.:*** Magnevist; ***Braz.:*** Magnevistan; ***Canad.:*** Magnevist; ***Chile:*** Magnevistan; ***Cz.:*** Magnegita; Magnevist; ***Denm.:*** Magnevist; ***Fin.:*** Magnevist; ***Fr.:*** Magnevist; ***Ger.:*** Magnevist; ***Gr.:*** Magnevist; ***Hung.:*** Magnevist; ***Ital.:*** Magnevist; ***Mex.:*** Viewgam; ***Neth.:*** Magnevist; ***Norw.:*** Magnevist; ***NZ:*** Magnevist; ***Port.:*** Magnevist; ***Rus.:*** Magnevist (Магневист); ***S.Afr.:*** Magnevist; ***Spain:*** Magnevist; Magnograf; ***Swed.:*** Magnevist; ***Switz.:*** Magnevist; ***UK:*** Magnevist; ***USA:*** Magnevist; ***Venez.:*** Magnevistan.

Gadoteric Acid *(BAN, rINN)*

Acide Gadotérique; Ácido gadotérico; Acidum Gadotericum; Gadoteerihappo; Gadotersyra; Gd-DOTA; ZK-112004. Hydrogen [1,4,7,10-tetraazacyclododecane-1,4,7,10-tetraaceto(4–)]-gadolinate(1–); Hydrogen [1,4,7,10-tetrakis(carboxylatomethyl)-1,4,7,10-tetra-azacyclododecane-κ^4N]gadolinate(1–).

Гадотеровая Кислота

$C_{16}H_{25}GdN_4O_8$ = 558.6.
CAS — 72573-82-1.
ATC — V08CA02.
ATC Vet — QV08CA02.



Meglumine Gadoterate *(BANM, rINNM)*

Gadotérate de Méglumine; Gadoterate Meglumine; Gadoterato de meglumina; Meglumini Gadoteras.

Меглумина Гадотерат

ATC — V08CA02.
ATC Vet — QV08CA02.

Adverse Effects and Precautions

As for Gadopentetic Acid, p.1479.

Hypersensitivity. For reports of anaphylactoid reactions with gadoterate, see under Adverse Effects of Gadopentetic Acid, p.1479.

Pharmacokinetics

Gadoterate is distributed into the extracellular space after intravenous injection. It is not bound to plasma proteins. A plasma half-life of about 1.5 hours has been reported. It is not metabolised and about 90% of a dose is excreted in the urine within 24 hours.

Uses and Administration

Gadoteric acid is an ionic gadolinium chelate with actions and uses similar to those of gadopentetic acid (above). It has paramagnetic properties and is used as a magnetic resonance contrast medium (p.1474). It distributes mainly into extracellular fluid, but does not cross the blood-brain barrier, and is used in imaging of cranial and spinal structures and of the whole body, and in magnetic resonance angiography.

Gadoteric acid is given intravenously as the meglumine salt. It is available as a solution containing meglumine gadoterate 376.9 mg/mL (0.5 mmol/mL). The usual dose in adults and children is 0.2 mL/kg (0.1 mmol/kg) by intravenous injection. A second dose of up to 0.4 mL/kg (0.2 mmol/kg) may be given if necessary. For angiography, a dose of 0.1 to 0.2 mL/kg (0.05 to 0.1 mmol/kg) may be given, repeated if required.

Preparations

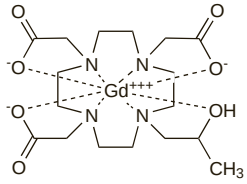
Proprietary Preparations (details are given in Part 3)
Arg.: Dotarem; ***Austral.:*** Dotarem; ***Austria:*** Dotarem; ***Belg.:*** Artirem; Dotarem; ***Braz.:*** Dotarem†; ***Chile:*** Dotarem; ***Cz.:*** Dotarem; ***Denm.:*** Dotarem; ***Fin.:*** Dotarem; ***Fr.:*** Artirem; Dotarem; ***Ger.:*** Artirem; Dotarem; ***Gr.:*** Dotarem; ***Hung.:*** Dotarem; ***Israel:*** Dotarem; ***Ital.:*** Dotarem; ***Neth.:*** Artirem; Dotarem; ***Norw.:*** Dotarem; ***Port.:*** Dotarem; ***Spain:*** Dotarem; ***Swed.:*** Dotarem; ***Switz.:*** Artirem; Dotarem; ***Venez.:*** Dotarem.

Gadoteridol *(BAN, USAN, rINN)*

Gadotéridol; Gadoteridoli; Gadoteridolum; Gd-HP-DO3A; SQ-32692. (±)-[10-(2-Hydroxypropyl)-1,4,7,10-tetraazacyclododecane-1,4,7-triacetato(3–)]gadolinium.

Гадотеридол

$C_{17}H_{29}GdN_4O_7$ = 558.7.
CAS — 120066-54-8.
ATC — V08CA04.
ATC Vet — QV08CA04.



Pharmacopoeias. In *US.*
USP 31 (Gadoteridol). A white to off-white, odourless, crystalline powder. Freely soluble in water and in methyl alcohol; soluble in isopropyl alcohol. Store in airtight containers. Protect from light.

Adverse Effects and Precautions

As for Gadopentetic Acid, above.

◊ Reviews.

1. Runge VM, Parker JR. Worldwide clinical safety assessment of gadoteridol injection: an update. *Eur Radiol* 1997; **7** (suppl 5): 243–5.

Hypersensitivity. For a report of an anaphylactoid reaction with gadoteridol, see under Adverse Effects of Gadopentetic Acid, p.1479.

Pharmacokinetics

Gadoteridol is distributed into extracellular fluid after intravenous injection. About 94% of a dose is excreted unchanged in the urine within 24 hours. An elimination half-life of about 1.57 hours has been reported.

Uses and Administration

Gadoteridol is a nonionic gadolinium chelate with actions and uses similar to those of gadopentetic acid (p.1480). It has paramagnetic properties and is used as a magnetic resonance contrast medium (p.1474). It distributes mainly into extracellular fluid, but does not cross the blood-brain barrier, and is used in imaging of cranial and spinal structures and of the whole body.

Gadoteridol is available as a solution containing 279.3 mg/mL (0.5 mmol/mL). The usual adult dose is 0.2 mL/kg (0.1 mmol/kg) intravenously; for CNS imaging, an additional dose of up to 0.4 mL/kg (0.2 mmol/kg) may be given up to 30 minutes after the first if necessary. A single dose of 0.2 mL/kg (0.1 mmol/kg) is used in children from 6 months of age.

Preparations

USP 31: Gadoteridol Injection.

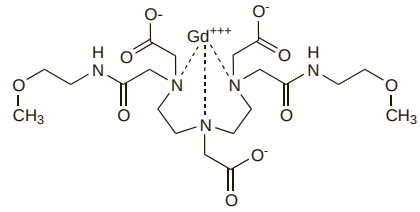
Proprietary Preparations (details are given in Part 3)
Austral.: Prohance; ***Austria:*** Prohance; ***Belg.:*** Prohance; ***Cz.:*** Prohance; ***Denm.:*** Prohance; ***Fin.:*** Prohance; ***Fr.:*** Prohance; ***Ger.:*** Prohance; ***Irl.:*** Prohance†; ***Ital.:*** Prohance; ***Jpn:*** Prohance; ***Neth.:*** Prohance; ***Norw.:*** Prohance; ***Spain:*** Prohance; ***Swed.:*** Prohance; ***Switz.:*** Prohance; ***UK:*** Prohance; ***USA:*** Prohance.

Gadoversetamide *(BAN, USAN, rINN)*

Gadoversetamida; Gadoversétamide; Gadoversetamidum; MP-1177. {*N*,*N*-Bis[2-({(carboxymethyl)[(2-methoxyethyl)carbamoyl]methyl}amino)ethyl]glycinato(3–)}gadolinium.

Гадоверсетамид

$C_{20}H_{34}GdN_5O_{10}$ = 661.8.
CAS — 131069-91-5.
ATC — V08CA06.
ATC Vet — QV08CA06.



Pharmacopoeias. In *US.*
USP 31 (Gadoversetamide). A white odourless powder. Freely soluble in water. Store in airtight containers. Protect from light.

Adverse Effects and Precautions

As for Gadopentetic Acid, p.1479.

Interference with diagnostic tests. Like gadodiamide (see p.1479), gadoversetamide may interfere with colorimetric methods for measuring serum-calcium concentrations.

Gadoversetamide may also interfere with measurement of serum-copper, iron, and zinc concentrations.

Renal impairment. For the view that gadoversetamide may carry an increased risk of the development of nephrogenic systemic sclerosis in patients with renal impairment, see p.1479.

Pharmacokinetics

Gadoversetamide is distributed into the extracellular space after intravenous injection. It is not bound to plasma proteins. An elimination half-life of about 1.7 hours has been reported. It is not metabolised and about 95.5% of a dose is excreted in the urine within 24 hours. Gadoversetamide is removed by haemodialysis.

Uses and Administration

Gadoversetamide is a nonionic gadolinium chelate with actions and uses similar to those of gadopentetic acid (p.1480). It has paramagnetic properties and is used as a magnetic resonance contrast medium (p.1474). It distributes mainly into extracellular fluid, but does not cross the blood-brain barrier, and is used in imaging of cranial and spinal structures and of the whole body.

Gadoversetamide is available as a solution containing 330.9 mg/mL (0.5 mmol/mL). The usual dose is 0.2 mL/kg (0.1 mmol/kg) intravenously.