and an *N*-demethylated compound, 2′,6′-pipecoloxylidide. Mepivacaine crosses the placenta.

See also under Local Anaesthetics, p.1852.

Pregnancy. There is considerable transfer of mepivacaine across the placenta after maternal doses and the ratio of fetal to maternal concentrations[1] is about 0.7. Although neonates have a very limited capacity to metabolise mepivacaine it appears they are able to eliminate the drug.[2]

1. Lurie AO, Weiss JB. Blood concentration of mepivacaine and lidocaine in mother and baby after epidural anesthesia. *Am J Obstet Gynecol* 1970; **106:** 850–6.
2. Meffin P, *et al*. Clearance and metabolism of mepivacaine in the human neonate. *Clin Pharmacol Ther* 1973; **14:** 218–25.

Uses and Administration

Mepivacaine hydrochloride is a local anaesthetic of the amide type with actions and uses similar to those described on p.1852. It is mainly used for infiltration anaesthesia, peripheral nerve block, and epidural block. (Local anaesthetic techniques are discussed on p.1853.) Mepivacaine has a rapid onset and an intermediate duration of action. The speed of onset and duration of action are increased by the addition of a vasoconstrictor and absorption into the circulation from the site of injection is reduced.

The dosage of mepivacaine hydrochloride varies with the site of injection and the type of **local anaesthetic procedure**. In adults, the **maximum single dose** of mepivacaine hydrochloride should not generally exceed 400 mg and the total dose in 24 hours should not exceed 1 g. Doses should be reduced in the elderly, in debilitated patients, and in those with cardiac or hepatic impairment. Concentrations of less than 2% should be used in children under 3 years or weighing less than about 14 kg (30 pounds); the dose in children should not exceed 5 to 6 mg/kg.

- For *infiltration anaesthesia* up to 400 mg as a 1% (40 mL) or 0.5% (80 mL) solution is used. For *dental infiltration and nerve block* a 2% solution with a vasoconstrictor or a 3% plain solution is used. For anaesthesia at a single site in the jaw a dose of 36 mg (1.8 mL) as a 2% solution or 54 mg (1.8 mL) as a 3% solution is used. For anaesthesia of the entire oral cavity 180 mg (9 mL) as a 2% solution or 270 mg (9 mL) as a 3% solution is used. Some recommend that no more than 400 mg should be given at a single dental sitting.
- For *peripheral nerve blocks*, namely *cervical*, *brachial plexus*, *intercostal*, and *pudendal blocks*, 1 or 2% solutions may be used in doses of 50 to 400 mg (5 to 40 mL) as a 1% solution, or 100 to 400 mg (5 to 20 mL) as a 2% solution. For pudendal block half of the dose is injected on each side. For *paracervical block* a dose of up to 100 mg (10 mL) as a 1% solution on each side has been suggested allowing an interval of 5 minutes between sides. This may be repeated at an interval of not less than 90 minutes, and for a combined paracervical and pudendal block up to 150 mg (15 mL) as a 1% solution is injected on each side. For therapeutic nerve block in the management of pain 10 to 50 mg (1 to 5 mL) as a 1% solution or 20 to 100 mg (1 to 5 mL) as a 2% solution may be given.
- For *epidural block* usual doses are: 150 to 300 mg (15 to 30 mL) as a 1% solution, 150 to 375 mg (10 to 25 mL) as a 1.5% solution, or 200 to 400 mg (10 to 20 mL) as a 2% solution. Hyperbaric solutions of mepivacaine hydrochloride without adrenaline have also been used for *spinal block*.

Mepivacaine has been included in the intramuscular injections of other drugs to minimise the pain produced at the injection site.

Mepivacaine has also been used as a surface anaesthetic but other local anaesthetics such as lidocaine are more effective.

Action. For a comparison of the vasoactivity of mepivacaine and some other local anaesthetics, see p.1852.

Preparations

USP 31: Mepivacaine Hydrochloride and Levonordefrin Injection; Mepivacaine Hydrochloride Injection.

Proprietary Preparations (details are given in Part 3)
Arg.: Mepigobbi; ***Austral.:*** Carbocaine; Scandonest†; ***Austria:*** Mepinaest; Scandicain; Scandonest; ***Belg.:*** Scandicaine; ***Canad.:*** Carbocaine; Polocaine†; ***Cz.:*** Mepivastesin; Scandonest; ***Denm.:*** Carbocain; Carboplyin; Scandonest; ***Fr.:*** Carbocaine; ***Ger.:*** Meaverin; Mecain; Mepihexal; Mepivastesin; Scandicain; ***Hong Kong:*** Mepivastesin; ***Ital.:*** Carbocaina; Carbosen; Mepi-Mynol; Mepibil; Mepicain; Mepident; Mepiforan; Mepisolver; Mepivamol; Mepivirgi; Molcain†; Optocain; Pericaina; Scandonest; ***Neth.:*** Scandicaine; Scandonest; ***Norw.:*** Carbocain; Scandonest; ***Port.:*** Isogaine; Mepivastesin; Scandinibsa; Scandonest; ***S.Afr.:*** Carbocaine; Scandonest†; ***Spain:*** Isogaine; Scandinibsa; ***Swed.:*** Carbocain; ***Switz.:*** Scandicain; Scandonest; ***Thai.:*** Mepicaton; ***USA:*** Carbocaine; Carbocaine with Neo-Cobefrin; Isocaine; Polocaine.

Multi-ingredient: ***Ger.:*** Meaverin†; Thesit†.

Used as an adjunct in: ***Austria:*** Estradurin; ***Belg.:*** Estradurine; ***Denm.:*** Estradurin; ***Fin.:*** Estradurin; ***Ger.:*** Estradurin†; ***Jpn:*** Amasulin; Bestcall; Lilacillin†; Panspori; Takesulin; ***Malaysia:*** Nevramin†; ***Neth.:*** Estradurin; ***Norw.:*** Estradurin; ***Port.:*** Linamin Plus†; ***Singapore:*** Nevramin; ***Swed.:*** Estradurin; ***Switz.:*** Estradurin; ***Thai.:*** Nevramin.

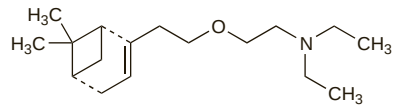
Myrtecaine *(rINN)*

Mirtecaína; Myrtécaïne; Myrtecainum; Nopoksamin; Nopoxamine. 2-[2-(10-Norpin-2-en-2-yl)ethoxy]triethylamine.

Миртекаин

$C_{17}H_{31}NO$ = 265.4.

CAS — 7712-50-7.



Profile

Myrtecaine is a local anaesthetic (p.1850) used topically as the base or laurilsulfate in rubefacient preparations for the treatment of muscle and joint pain. Myrtecaine laurilsulfate is also used in preparations with antacids for the symptomatic relief of gastrointestinal disorders.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Arg.:*** Algesal; Flexicamin Crema†; ***Austria:*** Algesal; Latesyl; Rheugesal; ***Chile:*** Sinacid; ***Cz.:*** Algesal; ***Fr.:*** Acidrine; Algesal Suractive; ***Ger.:*** Acidrine†; Algesal; Algesalona†; ***Gr.:*** Algesal Suractive; ***Hung.:*** Algesal; ***Indon.:*** Acidrine; Algesal Superactive; ***Ital.:*** Acidrine; ***Mex.:*** Algesal†; ***Neth.:*** Algesal Forte; ***Port.:*** Algesal; Latesil; ***Spain:*** Algesal; ***Switz.:*** Algesal†; Algesalona†; ***Turk.:*** Algesal Suractive; ***Venez.:*** Lemazol.

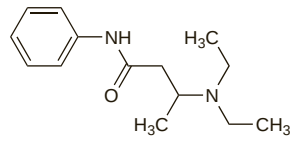
Octacaine Hydrochloride *(pINNM)*

Hidrocloruro de octacaína; Octacaïne, Chlorhydrate d'; Octacaini Hydrochloridum. 3-Diethylaminobutyranilide hydrochloride.

Октакаина Гидрохлорид

$C_{14}H_{22}N_2O$,HCl = 270.8.

CAS — 13912-77-1 (octacaine); 59727-70-7 (octacaine hydrochloride).



(octacaine)

Profile

Octacaine hydrochloride is a local anaesthetic (p.1850) that has been used for surface anaesthesia.

Preparations

Proprietary Preparations (details are given in Part 3)
Multi-ingredient: ***Switz.:*** Batramycine†.

Oxetacaine *(BAN, rINN)*

Oksetakaiini; Oksetakain; Oxetacaína; Oxétacaïne; Oxetacainum; Oxetakain; Oxethazaine *(USAN)*; Wy-806. 2,2′-(2-Hydroxyethylimino)bis[*N*-(αα-dimethylphenethyl)-*N*-methylacetamide].

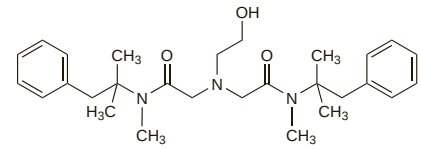
Оксетакаин

$C_{28}H_{41}N_3O_3$ = 467.6.

CAS — 126-27-2 (oxetacaine); 13930-31-9 (oxetacaine hydrochloride).

ATC — C05AD06.

ATC Vet — QC05AD06.



Pharmacopoeias. In *Br.* and *Jpn*.
BP 2008 (Oxetacaine). A white or almost white powder. Practically insoluble in water; freely soluble in methyl alcohol; very soluble in chloroform; soluble in ethyl acetate.

Profile

Oxetacaine is an amide anaesthetic (p.1850) that is stated to have a prolonged action. It is administered orally with antacids for the symptomatic relief of gastro-oesophageal reflux disease (p.1696). It has also been used as the hydrochloride in ointments and suppositories for the relief of pain associated with haemorrhoids.

Preparations

Proprietary Preparations (details are given in Part 3)
India: Tricaine-MPS; ***Ital.:*** Emoren; ***Jpn:*** Strocain.

Multi-ingredient: ***Arg.:*** Mucaine; ***Austral.:*** Mucaine; ***Austria:*** Tepilta; ***Belg.:*** Muthesa; ***Braz.:*** Droxaine; ***Canad.:*** Mucaine; ***Chile:*** Mucaine†; ***Cz.:*** Muthesa Compositum†; ***Fr.:*** Mutesa; ***Ger.:*** Tepilta; ***Gr.:*** Oxaine-M; ***Hong Kong:*** Antacaine; Gastrocaine; Milzine†; Mucaine; Oxema Improved; Strocain; ***India:*** Mucaine; Pepticaine; ***Ital.:*** Gastrodue†; ***NZ:*** Mucaine†; ***Philipp.:*** Geltazine; ***S.Afr.:*** Mucaine; ***Singapore:*** Mucaine; Strocain; ***Spain:*** Natrocitral; Roberfarin; ***Switz.:*** Muthesa; ***Thai.:*** Mucaine; Strocain; ***Turk.:*** Mucaine.

Oxybuprocaine Hydrochloride

(BANM, rINNM)

Benoxinate Hydrochloride; Hidrocloruro de oxibuprocaína; Oksibuprokaiinihydrokloridi; Oksibuprokain Hidroklorür; Oksibuprokaino hidrochloridas; Oxibuprokain-hidroklorid; Oxibuprokainhydroklorid; Oxybuprocaïne, chlorhydrate d'; Oxybuprocaini hydrochloridum; Oxybuprokain hydrochlorid. 2-Diethylaminoethyl 4-amino-3-butoxybenzoate hydrochloride.

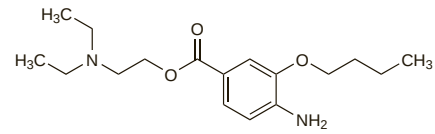
Оксибупрокаина Гидрохлорид

$C_{17}H_{28}N_2O_3$,HCl = 344.9.

CAS — 99-43-4 (oxybuprocaine); 5987-82-6 (oxybuprocaine hydrochloride).

ATC — D04AB03; S01HA02.

ATC Vet — QD04AB03; QS01HA02.



(oxybuprocaine)

NOTE. OXB, formerly BNX, is a code approved by the BP 2008 for use on single unit doses of eye drops containing oxybuprocaine hydrochloride where the individual container may be too small to bear all the appropriate labelling information.

Pharmacopoeias. In *Eur.* (see p.vii), *Jpn*, and *US*.
Ph. Eur. 6.2 (Oxybuprocaine Hydrochloride). A white or almost white, crystalline powder or colourless crystals. It exhibits polymorphism. Very soluble in water; freely soluble in alcohol. A 10% solution in water has a pH of 4.5 to 6.0. Protect from light.
USP 31 (Benoxinate Hydrochloride). White or slightly off-white, crystals or crystalline powder, odourless or with a slight characteristic odour. Soluble 1 in 0.8 of water, 1 in 2.6 of alcohol, and 1 in 2.5 of chloroform; insoluble in ether. A 1% solution in water has a pH of 5.0 to 6.0.

Adverse Effects, Treatment, and Precautions

As for Local Anaesthetics in general, p.1850.

Effects on the eyes. Fibrinous iritis and moderate corneal swelling occurred in 2 patients after the use of a 0.4% or 1% solution of oxybuprocaine hydrochloride for topical anaesthesia of the eye for minor surgery.[1] The effects may have been due to inadvertent entry of the drug into the anterior chamber of the eye.

1. Haddad R. Fibrinous iritis due to oxybuprocaine. *Br J Ophthalmol* 1989; **73:** 76–7.

Interactions

For interactions associated with local anaesthetics, see p.1851.