classical antipsychotics, but the use of thioridazine is now restricted in the treatment of schizophrenia because of the risk of cardiotoxicity.

Substance dependence. ***ALCOHOL***. For advice against the use of antipsychotics for alcohol withdrawal, see p.1626.

OPIOIDS. In a discussion of neonatal abstinence syndrome (p.102), it was observed in 1986 that, although opioids, diazepam, and phenobarbital were widely used in the USA for the management of this condition, chlorpromazine had tended to be the preferred treatment in the UK.[1] This was still true as late as the mid-1990s, although practice varied widely.[2] However, a systematic review[3] found insufficient evidence to support the use of chlorpromazine in the management of neonatal abstinence syndrome. The following dosage schedule has been suggested:[1] chlorpromazine is begun with a loading dose of 3 mg/kg, followed by a total oral maintenance dose of 3 mg/kg daily, divided into 4 or 6 doses. The authors suggested that this dose might be increased by 3 mg/kg daily if withdrawal symptoms were particularly severe. Once stabilised a reduction in the dose of chlorpromazine by 2 mg/kg every third day is attempted.[1] Complications of phenothiazine usage have been notably absent, although rarely seizures may occur.

1. Rivers RPA. Neonatal opiate withdrawal. *Arch Dis Child* 1986; **61:** 1236–9.
2. Morrison CL, Siney C. A survey of the management of neonatal opiate withdrawal in England and Wales. *Eur J Pediatr* 1996; **155:** 323–6.
3. Osborn DA, *et al*. Sedatives for opiate withdrawal in newborn infants. Available in The Cochrane Database of Systematic Reviews; Issue 3. Chichester: John Wiley; 2005 (accessed 02/10/07).

Taste disorders. Disturbances of the sense of taste may be broadly divided into either loss or distortion of taste. Loss of taste may be either complete (ageusia) or partial (hypogeusia). Distortion of taste (dysgeusia) may occur as aliageusia in which stimuli such as food or drink produce an inappropriate taste or as phantogeusia in which an unpleasant taste is not associated with an external stimuli and is sometimes referred to as a gustatory hallucination. Taste disturbances have many causes including infections, metabolic or nutritional disturbances, radiation, CNS disorders, neoplasms, drug therapy, or may occur as a consequence of normal ageing.[1] Management primarily consists of treatment of any underlying disorder. Withdrawal of offending drug therapy is commonly associated with resolution but occasionally effects persist and may require treatment.[2] Zinc or vitamin therapy has been used but there is insufficient evidence to indicate efficacy[1,3] for taste disturbances secondary to drug therapy or medical conditions that do not involve low zinc or vitamin concentrations. Phantogeusia might be linked to excessive activity of dopaminergic receptors as it has been reported[4] to respond to short-term treatment with small doses of antipsychotic drugs such as haloperidol or pimozide.

1. Schiffman SS. Taste and smell losses in normal aging and disease. *JAMA* 1997; **278:** 1357–62.
2. Henkin RI. Drug-induced taste and smell disorders: incidence, mechanisms and management related primarily to treatment of sensory receptor dysfunction. *Drug Safety* 1994; **11:** 318–77.
3. Heyneman CA. Zinc deficiency and taste disorders. *Ann Pharmacother* 1996; **30:** 186–7.
4. Henkin RI. Salty and bitter taste. *JAMA* 1991; **265:** 2253.

Preparations

BP 2008: Chlorpromazine Injection; Chlorpromazine Oral Solution; Chlorpromazine Suppositories; Chlorpromazine Tablets;
USP 31: Chlorpromazine Hydrochloride Injection; Chlorpromazine Hydrochloride Oral Concentrate; Chlorpromazine Hydrochloride Syrup; Chlorpromazine Hydrochloride Tablets; Chlorpromazine Suppositories.

Proprietary Preparations (details are given in Part 3)

Arg.: Ampliactil; Conrax; ***Austral.:*** Largactil; ***Braz.:*** Amplictil; Clorpromaz; Longactil; ***Canad.:*** Chlorpromanyl†; Largactil; ***Chile:*** Largactil; ***Cz.:*** Plegomazin; ***Denm.:*** Largactil; ***Fin.:*** Klorpromaan; ***Fr.:*** Largactil; ***Ger.:*** Propaphenin; ***Gr.:*** Largactil; Solidon; Zuledin; ***Hong Kong:*** Largactil†; ***Hung.:*** Hibernal; ***Indon.:*** Cepezet; Meprosetil; Promactil; ***Irl.:*** Clonazine; Largactil†; ***Israel:*** Taroctyl; ***Ital.:*** Largactil; Prozin; ***Malaysia:*** Matcine; ***Mex.:*** Largactil; ***Neth.:*** Largactil; ***Norw.:*** Largactil; ***NZ:*** Largactil; ***Philipp.:*** Laractyl; Psynor; Thorazine; ***Pol.:*** Fenactil; ***Port.:*** Largactil; Largatrex; ***Rus.:*** Aminazin (Аминазин); ***S.Afr.:*** Largactil; ***Singapore:*** Largo; Matcine; ***Spain:*** Largactil; ***Swed.:*** Hibernal; ***Switz.:*** Chlorazin; ***Thai.:*** Chlormazine†; Chlorpromasit; Chlorpromed; Duncan; Matcine; Pogetol; Prozine; ***Turk.:*** Largactil; ***UK:*** Largactil; ***USA:*** Thorazine†; ***Venez.:*** Largactil†.

Multi-ingredient: ***Arg.:*** 6 Copin; ***India:*** Trinicalm Forte; ***Spain:*** Largatrex†; ***Thai.:*** Ama.

Chlorprothixene *(BAN, USAN, rINN)*

Chlorprothixène; Chlorprothixenum; Clorprotixeno; Klooriprotikseeni; Klorprotixen; N-714; Ro-4-0403. (*Z*)-3-(2-Chlorothioxanthen-9-ylidene)-*NN*-dimethylpropylamine.

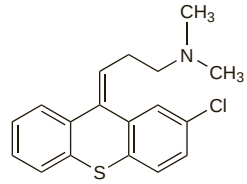
Хлорпротиксен

$C_{18}H_{18}ClNS$ = 315.9.

CAS — 113-59-7.

ATC — N05AF03.

ATC Vet — QN05AF03.



Pharmacopoeias. In *Chin.*

Chlorprothixene Hydrochloride *(BANM, rINNM)*

Chloroprotyksenu chlorowodorek; Chlorprothixène, chlorhydrate de; Chlorprothixen-hydrochlorid; Chlorprothixeni hydrochloridum; Chlorprotikseno hidroclorida; Hidrocloruro de clorprotixeno; Klooriprotikseenihydrokloridi; Klórprotixen-hidroklorid; Klorprotixenhydroklorid.

Хлорпротиксена Гидрохлорид

$C_{18}H_{19}Cl_2NS$ = 352.3.

ATC — N05AF03.

ATC Vet — QN05AF03.

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

Ph. Eur. 6.2 (Chlorprothixene Hydrochloride). A white or almost white, crystalline powder. Soluble in water and in alcohol; slightly soluble in dichloromethane. A 1% solution in water has a pH of 4.4 to 5.2. Protect from light.

Chlorprothixene Mesilate *(BANM, rINNM)*

Chlorprothixène, Mésilate de; Chlorprothixene Mesylate; Chlorprothixeni Mesilas; Chlorprothixenium Mesylicum; Mesilato de clorprotixeno.

Хлорпротиксена Мезилат

$C_{19}H_{22}ClNO_3S_2,H_2O$ = 430.0.

ATC — N05AF03.

ATC Vet — QN05AF03.

Profile

Chlorprothixene is a thioxanthene antipsychotic with general properties similar to those of the phenothiazine, chlorpromazine (p.969). It is used mainly in the treatment of psychoses (p.954). Chlorprothixene is given as the acetate and the hydrochloride. Preparations of chlorprothixene prepared with the aid of lactic acid have been stated to contain chlorprothixene lactate. The citrate and the mesilate have also been used.

Chlorprothixene is usually given orally as the hydrochloride and doses are expressed in terms of this salt. The acetate is given by injection with doses expressed in terms of the base. A usual oral initial dose for the treatment of psychoses is 15 to 50 mg three or four times daily, increased according to response; doses of up to 600 mg or more daily have been given in severe or resistant cases. It may also be given intramuscularly or intravenously in single doses of up to 100 mg. Chlorprothixene should be used in reduced dosage for elderly or debilitated patients.

Adverse effects. A 59-year-old man receiving chlorprothixene (for the second time) for acute mania developed severe obstructive jaundice within a few days; he was also taking chlorpropamide, digoxin, and diuretics.[1] Chlorprothixene was considered the most likely cause of the jaundice, though chlorpropamide could not be excluded.

1. Ruddock DGS, Hoenig J. Chlorprothixene and obstructive jaundice. *BMJ* 1973; **1:** 231.

Breast feeding. The American Academy of Pediatrics[1] considers that, although the effect of chlorprothixene on breast-fed infants is unknown, its use by mothers during breast feeding may be of concern since antipsychotics do appear in breast milk and thus could conceivably alter CNS function in the infant both in the short and long term.

Chlorprothixene and its sulfoxide metabolite were concentrated in the breast milk of 2 mothers given chlorprothixene 200 mg daily but it was calculated that the amount ingested by the nursing infant was only 0.1% of the maternal dose per kg bodyweight.[2]

1. 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 28/04/04)
2. Matheson I, *et al*. Presence of chlorprothixene and its metabolites in breast milk. *Eur J Clin Pharmacol* 1984; **27:** 611–13.

Metabolism. Results from studies on the metabolism of chlorprothixene in *animals* and man[1] indicated that in addition to the major metabolite chlorprothixene-sulfoxide, 2 further urinary metabolites were identified, namely *N*-desmethylchlorprothixene-sulfoxide and chlorprothixene-sulfoxide-*N*-oxide.

1. Raaflaub J. Zum Metabolismus des Chlorprothixen. *Arzneimittelforschung* 1967; **17:** 1393–5.

Preparations

Proprietary Preparations (details are given in Part 3)

Austria: Truxal; Truxaletten; ***Denm.:*** Truxal; ***Fin.:*** Cloxan†; Truxal; ***Ger.:*** Truxal; ***Hung.:*** Truxal; ***Neth.:*** Truxal; ***Norw.:*** Truxal; ***Rus.:*** Truxal (Труксал); ***Swed.:*** Truxal; ***Switz.:*** Truxal; Truxaletten.

Cinolazepam *(rINN)*

Cinolazépam; Cinolazepamum; OX-373. 7-Chloro-5-(2-fluorophenyl)-2,3-dihydro-3-hydroxy-2-oxo-1*H*-1,4-benzodiazepine-1-propionitrile.

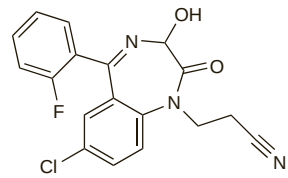
Цинолазепам

$C_{18}H_{13}ClFN_3O_2$ = 357.8.

CAS — 75696-02-5.

ATC — N05CD13.

ATC Vet — QN05CD13.



Profile

Cinolazepam is a benzodiazepine derivative with general properties similar to those of diazepam (p.986) that has been used in the short-term management of sleep disorders in usual oral doses of 40 mg at night.

Preparations

Proprietary Preparations (details are given in Part 3)

Austria: Gerodorm; ***Cz.:*** Gerodorm; ***Hung.:*** Gerodorm.

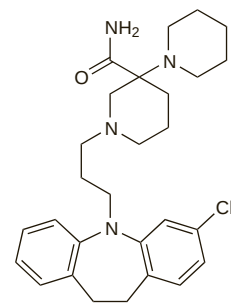
Clocapramine Hydrochloride *(rINNM)*

Chlorcarpipramine Hydrochloride; Clocapramine, Chlorhydrate de; Clocapramini Hydrochloridum; Hidrocloruro de clocapramina; Y-4153. 1′-[3-(3-Chloro-10,11-dihydro-5*H*-dibenz[*b,f*]azepin-5-yl)propyl][1,4′-bipiperidine]-4′-carboxamide dihydrochloride monohydrate.

Клокапрамина Гидрохлорид

$C_{28}H_{37}ClN_4O,2HCl,H_2O$ = 572.0.

CAS — 47739-98-0 (clocapramine); 28058-62-0 (clocapramine hydrochloride).



(clocapramine)

Pharmacopoeias. In *Jpn.*

Profile

Clocapramine is a chlorinated derivative of carpipramine (p.968). The hydrochloride has been given orally in the treatment of schizophrenia.