Part II

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Niopam 300, Solution for Injection, glass ampoules

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

The solution contains 61.2% w/v Iopamidol equivalent to 300mg iodine/ml.
Each ml contains 612mg Iopamidol.

For excipients, see 6.1.

3 PHARMACEUTICAL FORM

Solution for injection
A clear aqueous solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

X-ray contrast medium for use in thoraco-lumbar and cervical myelography and in computer tomography enhancement.

4.2 Posology and method of administration

Method of administration
Intrathecal.
Intraventricular.
Intra-arterial.
Intravenous.
Intra-cisternal.
Intra-articular.

Dosage
See Table.

NIOPAM 300: DOSAGE SCHEDULE

Procedure	Dosage
Lumbar myelography	Adults: 5 - 10ml
Thoraco-Cervical myelography	Adults: 5 - 10ml
Orbital venography and cavernous sinography	Adults: 10ml*
Ventriculography and basal cisternography	Adults: 5ml
Cerebral angiography	Adults: 5 - 10ml* Children: 5 - 7ml **
Peripheral arteriography	Adults: 20 - 50 ml* Children: **
Venography	Adults: 20 - 50ml Children: **
Intravenous urography	Adults: 40 - 80ml 1.5mg/kg in renal impairment Children: 1 - 2.5ml/kg or **
Arthrography	Adults: 1 - 10ml
Computer Tomography enhancement	Adults: Brain scanning: 5 - 100ml intravenously Whole body scanning: 40 - 100ml intravenously

* Repeat as necessary.
** According to body size and age.

Elderly: Dosage as for adults.

Care should be exercised in carrying out radiographic procedures with contrast media in patients with severe functional impairment of the liver or myocardium, severe systemic disease and in myelomatosis. In the latter condition patients should not be exposed to dehydration: similarly abnormalities of fluid or electrolyte balance should be corrected prior to use.

4.3 Contraindications

Use in patients with proven or suspected hypersensitivity to iodine containing preparations of this type.

4.4 Special warnings and precautions for use

A positive history of allergy, asthma or untoward reaction during previous similar investigations indicates a need for extra caution: the benefit should clearly outweigh the risk in such patients. Appropriate resuscitative measures should be immediately available.

Particular care should also be exercised in patients with moderate to severe impairment of renal function (as reflected by raised blood urea) or in diabetes. Substantial deterioration in renal function is minimised if the patient is well hydrated. Renal function parameters should be monitored after the procedure in these patients.

The presence of renal damage in diabetic patients is one of the factors predisposing to renal impairment following contrast media administration. This may precipitate lactic acidosis in patients who are taking administration. This may precipitate lactic acidosis in patients who are taking metformin. As a precaution, metformin should be discontinued at

the time of, or prior to, the procedure and withheld for 48 hours subsequent to the procedure and re-instituted only after renal function has been re-evaluated and found to be normal.

Patients with severe hepato-renal insufficiency should not be examined unless absolutely indicated. Re-examination should be delayed for 5-7 days.

Special care should be exercised when this product is injected into the right heart or pulmonary artery in patients with pulmonary hypertension. Right heart angiography should be carried out only when absolutely indicated.

In patients who are known epileptics or have a history of epilepsy, anticonvulsant therapy should be maintained before and following myelographic procedures. In some instance, anticonvulsant therapy may be increased for 48 hours before the examination.

Non-ionic contrast media have less anti-coagulant activity *in-vitro* than ionic media. Meticulous attention should therefore be paid to angiographic technique. Non-ionic media should not be allowed to remain in contact with blood in the syringe and intravascular should be flushed frequently, to minimise the risk of clotting, which rarely has led to serious thromboembolic complications after procedures.

Niopam should be used with caution in patients with hyperthyroidism; it is possible that hyperthyroidism may recur in patients previously treated for Graves' disease.

X-ray examination of women should if possible be conducted during the pre-ovulation phase of the menstrual cycle and should be avoided during pregnancy: also since it has not been demonstrated that Niopam is safe for use in pregnant women, it should be administered only if the procedure is considered essential by the physician.

No other drugs should be mixed with the contrast medium.

Appropriate resuscitative measures should be immediately available.

4.5 Interaction with other medicinal products and other forms of interaction

Use of the product may interfere with tests for thyroid function.

4.6 Pregnancy and lactation

X-ray examination of women should if possible be conducted during the pre-ovulation phase of the menstrual cycle and should be avoided during pregnancy: also, since it has been demonstrated that Niopam is safe for use in pregnant women, it should be administered only if the procedure is considered essential by the physician.

4.7 Effects on ability to drive and use machines

Not applicable.

4.8 Undesirable effects

As with all other contrast media this product may provoke anaphylaxis or other manifestations of allergy: e.g. nausea, vomiting dyspnoea, erythema, urticarial and hypotension. Other frequently occurring effects are normally mild an include headache, nausea, vomiting, heat sensation, dyspnoea and hypotension. Skin rashes may occur in some patients.

4.9 Overdose

Not known.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Iopamidol is contrast medium belonging to the new generation of non-ionic compound whose solubility is due to the presence of hydrophilic substitutes in the molecule. This results in a solution of low osmolality when compared with ionic media.

5.2 Pharmacokinetic properties

The pharmacokinetics of iopamidol conform to an open two compartment pharmacokinetic model with first order elimination.

Distribution volume is equivalent to extracellular fluid.

Elimination is almost completely through the kidneys. Less than 1% of the administered dose has been recovered in the faeces up to 72 hours after dosing. Elimination is rapid: up to half the administered dose may be recovered in the urine in the first two hours of dosing.

There is no evidence of biotransformation.

Serum protein binding is negligible.

5.3 Preclinical safety data

No adverse effects can be predicted from animal toxicology studies other than those documented form human use of iopamidol.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Trometamol
Hydrochloric acid
Sodium calcium edetate
Water for Injection

6.2 Incompatibilities

No other drug should be mixed with the contrast medium.

6.3 Shelf Life

Shelf life:	5 years.
In use shelf life:	Once opened use immediately.

6.4 Special precautions for storage

Store in the original package (to protect from light).

6.5 Nature and contents of container

10ml clear colourless Ph. Eur. Type I glass ampoules.
Packed either singly or in boxes of 10 units.

6.6 Special precautions for disposal of a used medicinal product or waste materials derived from such medicinal product and other handling of the product

Discard if the solution is not clear of particulate matter.

Exceptionally, the event of crystallisation of Niopams could occur. It has been shown that such a phenomenon is caused by a damaged or defective container and therefore the product should not be used in this case.

The bottle, once opened, must be used immediately. The residue of contrast medium must be discarded.

Niopam, as other iodinated contrast media, can react with metallic surfaces containing copper (e.g. brass), therefore the use of equipment, in which the product comes into direct contact with such surfaces, should be avoided.

7 MARKETING AUTHORISATION HOLDER

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8 MARKETING AUTHORISATION NUMBER

PA 1022/10/1

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

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10 DATE OF REVISION OF THE TEXT

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