# Part II

# Summary of Product Characteristics

## 1 NAME OF THE MEDICINAL PRODUCT

Niopam 200, Solution for Injection, glass ampoules

## 2 QUALITATIVE AND QUANTITATIVE COMPOSITION

The solution contains 40.8% w/v Iopamidol, equivalent to 200mg iodine/ml
Each ml contains 408mg of 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 lumbar and thoraco-cerviacl myelography, and in computer tomography enhancement.

### 4.2 Posology and method of administration

Method of administration

Intrathecal.
Intravenous.

Dosage

NIOPAM 200: DOSAGE SCHEDULE

| Procedure | Dosage |
|---|---|
| Lumbar | Adults: 10 - 50 ml |
| Thoraco-Cervical | Adults: 5 - 15 ml |
| Computer Tomography | Adults Brain scanning 50 - 100ml<br>Whole body scanning 40-100ml |

## 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.

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.

Care should also be exercised in patients with moderate to severe impairment of renal function (as reflected by a 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.

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 instances, 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 catheters 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.

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 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.

## 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 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.

## 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, urticaria and hypotension. Other frequently occurring effects are normally mild and include headache, nausea, vomiting, heat sensation, dyspnoea and hypotension. Skin rashes may occur in some patients.

During intracardiac and/or coronary arteriography, ventricular arrhythmias may infrequently occur.

## 4.9 Overdose

Not known.

# 5 PHARMACOLOGICAL PROPERTIES

## 5.1 Pharmacodynamic properties

Iopamidol is a contrast medium belonging to the new generation of non-ionic compounds 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.

Iopamidol has been shown to be effective as an X-ray contrast medium in neuroradiology, angiography, venography, arthrography, urography, cerebral angiography and left ventriculography and coronary arteriography. Its toxicity, particularly cardiac and CNS toxicity, is less than that of ionic contrast 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 from 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. Any 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 1022/9/1

## 9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 10 March 1983

Date of last renewal: 08 March 2003

## 10 DATE OF REVISION OF THE TEXT

September 2005