Part II

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

Iomeron 300

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Contains 61.24% w/v of concentration of iomeprol equivalent to 30% iodine or 300mg iodine/ml.

3 PHARMACEUTICAL FORM

Solution for injection.
Clear, colourless solution.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

X-ray contrast medium used for:

- peripheral arteriography
- venography
- angiogardiography and left ventriculography
- cerebral arteriography
- visceral arteriography
- digital subtraction angiography
- computed tomography enhancement
- urography
- arthrography
- ERCP
- dacryocystrography
- sialography
- fistulography
- galactography

4.2 Posology and method of administration

peripheral arteriography	adults children	10 - 90ml * * *
venography	adults	10 - 100ml* max 250ml 10 - 50ml upper extremity 50 - 100ml lower extremity
Intravenous Intra-arterial Intra-articular Intracavitary		
angiocardiography and left ventriculography	adults children	30 - 80ml max 250ml * *

cerebral arteriography	adults children	5 - 12ml * 3 - 7ml or * *
visceral arteriography	adults children	5 - 50ml* or according to type of examination; max 250ml * *
digital subtraction angiography Intra arterial visceral	adults	2 - 20ml per artery* aorta 25-50ml* both 250ml max
peripheral	adults	5 - 10ml per artery* max 250ml
intravenous	adults	30 - 60ml* max 250ml
computed tomography		
brain	adults children	50 - 150ml * *
body	adults children	40 - 150ml max 250ml * *
urography intravenous	adults neonates babies children	50 - 150ml 3 - 4.8ml/kg 2.5 - 4ml 1 - 2.5ml/kg or *
arthrography	adults	1 - 10ml
ERCP	adults	12 - 30ml
dacryocystography	adults	3 - 8ml
sialography	adults	1 - 3ml
fistulography	adults	1 - 50ml
galactography	adults	0.2 - 1.5ml

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

In elderly patients the lowest effective dose should be used.

4.3 Contraindications

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 since, as with other contrast media, this product may provoke anaphylaxis or other manifestations of allergy with nausea, vomiting, dyspnoea, erythema, urticaria and hypotension. The benefits should clearly outweigh the risks in such patients and appropriate resuscitative measures should be immediately available. The primary treatments are as follows:

Effect	**Major Symptoms**	**Primary Treatment**
Vasomotor effect	warmth nausea/vomiting	reassurance
Cutaneous	scattered hives severe urticaria	H -antihistamines H -antihistamines
Bronchospastic	wheezing	oxygen Beta-2-agonist inhalers
Anaphylactoid reaction	angioedema urticaria bronchospasm hypotension	oxygen iv fluids adrenergics (iv epinephrine) Inhaled beta-2-adrenergics antihistamines (H -and H - blockers) corticosteroids
Hypotensive	hypotension	iv fluids
Vagal reaction	hypotension bradycardia	iv fluids iv atropine

From Bush WH The Contrast Media Manual
Katzburg RW Ed. Williams and Wilkins
Baltimore 1992 Chapter 2 p23

Any severe disorders of water and electrolyte balance must be corrected prior to administration. Adequate hydration must be ensured particularly in patients with multiple myeloma, diabetes mellitus, polyuria, oliguria and hyperuricaemia; also in babies, small children and the elderly. Rehydration prior to use of iomeprol is recommended in patients with sickle cell disease.

Care should be taken in severe cardiac disease particularly heart failure and coronary artery disease. Reactions may include pulmonary oedema, haemodynamic changes, ischaemic ECG changes and arrhythmias. In severe, chronic hypertension the risk of renal damage following administration of a contrast medium is increased. In these cases the risks associated with the catheterization procedure are increased. Care should be taken in renal impairment and diabetes. In these patients it is important to maintain hydration in order to minimise deterioration in renal function.

A combination of severe hepatic and renal impairment delays excretion of the contrast medium therefore such patients should not be examined unless absolutely necessary.

The product should be used with caution in patients with hyperthyroidism or goitre. Use may interfere with thyroid function tests.

Particular care is needed in patients with acute cerebral infarction, acute intracranial haemorrhage and any conditions involving damage to the blood brain barrier, brain oedema or acute demyelination. Convulsive seizures are more likely in patients with intracranial tumours or metastases or with a history of epilepsy.

Neurological symptoms related to cerebrovascular diseases, intracranial tumours/metastases or degenerative or inflammatory pathologies may be exacerbated.

There is an increased risk of transient neurological complications in patients with symptomatic cerebrovascular disease eg stroke, transient ischaemic attacks. Cerebral ischaemic phenomena may be caused by intravascular injection.

In acute and chronic alcoholism the increase in blood brain barrier permeability facilitates the passage of the contrast medium into cerebral tissue possibly leading to CMS disorders. There is a possibility of a reduced seizure threshold facilitates the passage of contrast medium into cerebral tissue possibly leading to CNS disorders. There is a possibility of a reduced seizure threshold in alcoholics.

In patients with a drug addiction there is also the possibility of a reduced seizure threshold.

Patients with phaeochromocytoma may develop severe, occasionally uncontrollable hypertensive crises during intravascular administration. Premedication with an alpha blocker is recommended in these patients. Pronounced excitement, anxiety and pain can cause side effects or intensify reaction to the contrast medium. A sedative may be given.

Since, on rare occasions, delayed reactions can occur, driving or operating machinery is not advisable for the first 24 hours after the procedure.

Anticonvulsant therapy should not be discontinued. A normal diet should be maintained until the patient refrains from eating 2 hours before the procedure.

Non ionic contrast media have less antiocoagulant 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 a syringe, and intravascular catheters should be flushed frequently to minimise the risk of clotting which, rarely, has led to serious thromboembolic complications.

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 stopped 48 hours prior to examination and reinstated only after control of renal function has been regained.

Intravascular administration should be performed if possible with the patient lying down. The patient should be kept in this position and closely observed for at least 30 minutes after the procedure since the majority of severe incidents occur with this time.

Children: Infants up to 1 year, especially the new-born, are particularly susceptible to electrolyte imbalance and haemodynamic alterations. Care should be taken regarding the dosage used.

Elderly: There is special risk of reactions involving the circulatory system such that myocardial ischaemia, major arrhythmias and extrasystoles are more
likely to occur. A combination of neurological disturbances and vascular pathologies present a serious complication. The probability of acute renal insufficiencies is higher in these people.

4.5 Interaction with other medicinal products and other forms of interaction

Use of the product may interfere with tests for thyroid function. Vasopressor agents should not be administered prior to iomeprol.

4.6 Pregnancy and lactation

Elective exposure to diagnostic radiation should be restricted in so far as possible to the first ten days of the ovulatory cycle.
Animal studies have not indicated any harmful effects with respect to the course of pregnancy or on the health of the unborn or neonate. The safety of iomeprol in human pregnancy however has not been established. Therefore avoid in pregnancy unless there is no safer alternative.

No human data exist concerning the excretion of iomeprol in breast milk. Animal studies have demonstrated that the excretion of iomeprol in breast milk is similar to that of other contrast agents and that these compounds are only minimally absorbed by the gastrointestinal tract of the young. Adverse effects on the nursing infant are therefore unlikely to occur.

4.7 Effects on ability to drive and use machines

Driving or operating machinery is not advisable for the first 24 hours following the procedure in case of delayed reaction.

4.8 Undesirable effects

Common reactions are pain at the site of injection, sensations of heat and a disturbance of the taste sensation.

The product may occasionally provoke the following mild to moderate effects: generalised transient pain sensation, chills, fever, asthenia, dizziness, fainting, nausea, vomiting, sweating, pallor, dyspneoa, moderate hypotension, generalised and localised flushing, widespread erythema, oedema, agitation, headache, laryngeal oedema and nasal congestion, rashes accompanied by itching. Symptoms related to CNS disturbances are usually mild and short lived.

More severe effects involve the cardiovascular system. These are peripheral vasodilation with pronounced hypotension, hypertension, tachycardia or bradycardia, cyanosis, dyspnoea and circulatory collapse. More severe neurological effects can occur but only as a results of pre-existing pathologies.

A transient renal failure may arise, particularly in patients with a pre existing impairment of renal function. Haemorrhage and oedema may arise at the site of injection.

4.9 Overdose

The effects of overdose on the pulmonary and cardiovascular systems may become life-threatening. Treatment consists of support of the vital functions and prompt use of symptomatic therapy. Iomeprol does not bind to plasma or serum proteins and is therefore dialyzable.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Iomeprol is a low osmolality, non-ionic organic molecule with radio-opacity conferred by an iodine content of 49% of the molecular weight. It is formulated for use as an intravascular/intracavitary contrast medium in concentrations of up to 400mg iodine per ml. Even at this concentration the low viscosity allows delivery of high doses through thin catheters.

5.2 Pharmacokinetic properties

The pharmacokinetics of intravascularly administered iomeprol are similar to those of other iodinated contrast media and conform to a two-compartment model with a rapid distribution and a slower elimination phase. In healthy subjects, the mean distribution and elimination half-lives of iomeprol were 0.37 hours and 1.83 hours respectively.

Distribution volume is similar to that of extra cellular fluid. There is no significant serum protein binding and iomeprol is not metabolized.

Elimination is almost exclusively through the kidneys (90% of the dose recovered in the urine within 96 hours of its administration) and is rapid (50% of an intravascularly administered dose within 2 hours).

5.3 Preclinical safety data

There are no pre-clinical data of relevance which are additional to those included in other sections of the SPC.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Trometamol
Hydrochloric Acid
Water for injection

6.2 Incompatibilities

No other drug should be mixed with the contrast medium.

6.3 Shelf Life

Five years.
Solutions not used in one examination session must be discarded.

6.4 Special precautions for storage

Do not store above 30°C.
Protect from light.

6.5 Nature and contents of container

Colourless Type 1 glass ampoules containing 10 ml or 20 ml of solution.

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

Not relevant.

7 MARKETING AUTHORISATION HOLDER

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8 MARKETING AUTHORISATION NUMBER

PA 1022/007/001

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

Date of first authorisation: 28 March 1994

Date of last renewal: 28 March 1999