^{123}I sodium iodide

As capsule or solution for injection

1. Indications

^{123}I-sodium iodide capsules are approved as a diagnostic agent in the functional or morphological study of the thyroid gland by means of:

- Scintigraphy
- Radioactive iodine uptake test

The 24 h uptake data are generally used in calculating the therapeutic dose.

2. Preparation

Approved product, see summary of product characteristics (SmPC).

3. Quality control

Approved product, see summary of product characteristics (SmPC) and the European Pharmacopeia.

4. Interactions

Active substance	**Withdrawal period prior to administration of ^{123}I**
Amiodarone	4 weeks
Antithyroid agents: carbimazol, propylthiouracil, thiamazole,)	1 week
Benzodiazepines	4 weeks
Lithium	4 weeks
Perchlorate	1 week
Cough syrups, vitamins	1 week
Miscellaneous agents: Salicylates, steroids, sodium nitroprusside, anticoagulants, penicillines, antiparasitics, sulfonamides, tolbutamide, thiopental	1 week
Phenylbutazone	1-2 weeks
Iodinated contrast agents	1-2 months
Iodine-containing preparations for topical use	1-9 months
Iodine-containing supplements for example kelp tablets	1-2 weeks

5. Adverse reactions

Although rare, reactions associated with the administration of Sodium Iodide isotopes for diagnostic use include, in decreasing order of frequency: nausea, vomiting, chest pain, tachycardia, itching skin, rash and hives. Allergic type reactions have been reported infrequently following the administration of iodine-containing radiopharmaceuticals.

6. Biodistribution & pharmacokinetics

Absorption of iodide after capsule administration is virtually complete after 1-2h, but may be delayed if food is present in the stomach, which in turn will alter the radiation dose pattern.

Intravenously administered iodide is taken by the thyroid. About 20% of the available radioactivity enters the thyroid in one pass of the blood volume.

Distribution after entry in the systemic circulation leads to accumulation of iodide in the thyroid gland with a maximum of 24-48 h after dosing.

At 5 h after dosing, approximately 50% maximum thyroid concentration is achieved, but this may be altered by factors such as age, thyroid condition and renal clearance of circulating iodide. Concomitant medication may also effect thyroid uptake of iodide.

The half-time of iodide elimination from the thyroid is estimated at 80 days so that the physical half-life of ^{123}I determine the timing for obtaining imaging. Without considering the thyroid uptake, the iodide leaves the bloodstream primarily via urinary excretion (37-75%), while faecal excretion is low (about 1%). The normal range of urinary excretion in 24 h is reported to be 37-75% of the administered dose, varying with thyroid and renal function.

7. Stability

36 h from the activity reference time and date as stated on the label. Store below 25°C, do not freeze. Solution for injection: Once opened store in a refrigerator (2-8°C) and use within one working day.

8. Literature

- SmPC Sodium Iodie (I123) capsules, GE Healthcare.
- SmPC Sodium Iodide (123I) Injection 37 MBq/ml solution for injection.