Part II

Summary of Product Characteristics

1 NAME OF THE MEDICINAL PRODUCT

AT 10 250 micrograms/ml Oral Drops, Solution

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each 1 ml of liquid contains 250 micrograms of dihydrotachysterol in arachis oil (peanut oil).

For a full list of excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Oral drops, solution
A clear, deep straw- coloured liquid.

4 CLINICAL PARTICULARS

4.1 Therapeutic Indications

AT10 is recommended in the treatment of hypocalcaemic tetany due to hypoparathyroidism.

4.2 Posology and method of administration

Adults
In acute cases 3 to 5ml (0.75 to 1.25mg) may be given on each of the first three days of treatment, followed 2 to 3 days later by blood and urinary calcium estimations. The maintenance dose is within the range of 1 to 7ml (0.25 to 1.75mg) each week, the precise amount depending on the results of serum and urinary calcium determinations.

In chronic cases, an initial dose of 2ml (0.5mg) daily or on alternate days, may be sufficient to maintain normocalcaemia in moderate cases.

AT10 is for oral administration only.

4.3 Contraindications

Hypersensitivity to dihydrotachysterol and other ingredients of the preparation.
Hypercalcaemia.
Hypervitaminosis D.
Allergy to nuts (including peanuts).

Do not use with calcium supplements.

4.4 Special warnings and precautions for use

Uncontrolled prolonged administration can result in hypercalcaemia which may lead to nephrocalcinosis. Accurate blood calcium determinations must be made at initiation of treatment and periodically during maintenance. The serum calcium level should be kept between 2.25-2.5mmol/litre.

Serum phosphate, magnesium and alkaline phosphatase should also be measured periodically to monitor progress.

If nausea and vomiting are present serum calcium level should be checked.

Monitoring of calciuria is a convenient supplement to blood calcium determinations, but it should not be regarded as a substitute because in hypoparathyroid patients treated with AT10 hypercalciuria can occur in the presence of hypocalcaemia.

Certain individuals, particularly those suffering from sarcoidosis, are very sensitive to the effect of Vitamin D and it is advisable to consult a physician in cases of doubt.

4.5 Interaction with other medicinal products and other forms of interaction

Several classes of medicines interact with Vitamin D analogues calling for adjustment in the dosage of AT10. Thyroid replacement therapy may increase clearance of dihydrotachysterol; cholestyramine may impair its absorption; thiazide diuretics may enhance the calcaemic response leading to hypercalcaemia; barbiturates, anticonvulsants, rifampicin and isoniazid may reduce the effectiveness of AT10. Hypercalcaemia induced by excessive dosing of AT10 may enhance the toxic effects of cardiac glycosides.

4.6 Pregnancy and lactation

The safety of dihydrotachysterol in pregnancy is not established. Since there is some evidence that use during pregnancy could lead to foetal damage and hypercalcaemia in the newborn, treatment with AT10 is only justified if potential benefits outweigh possible risks.

Dihydrotachysterol is excreted in breast milk and may cause hypercalcaemia in the suckling infant. AT10 is contraindicated in breast feeding mothers.

4.7 Effects on ability to drive and use machines

None.

4.8 Undesirable effects

Side effects are most likely due to overdose leading to hypercalcaemia, the first signs of which are loss of appetite, listlessness and nausea.

More severe manifestations include vomiting, urgency of micturition, polyuria, dehydration, thirst, vertigo, stupor, headache, abdominal cramps and paralysis. The calcium and phosphorus concentrations of serum and urine are increased.

With chronic overdosage, calcium may be deposited in many tissues, including arteries and the kidneys leading to hypertension and renal failure. Plasma cholesterol may also be increased.

4.9 Overdose

Treatment
In chronic overdosage the symptoms of hypercalcaemia will usually respond to withdrawal of medication, bed rest, liberal fluid intake and the use of laxatives.

In acute overdosage, consideration should be given to recovery of AT10 by emesis or gastric lavage if ingestion is recent. Serum calcium estimations should be helpful in determining management.

In massive overdosage of Vitamin D, corticosteroids have been found useful and also neutral phosphate in resistant cases. Several months management may be needed in such cases.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Dihydrotachysterol is a synthetic analogue of Vitamin D and is used in the treatment of hypoparathyroidism. However, it is not useful in the treatment of rickets since its antirachitic activity is considerably weaker than that of Vitamin D.

The actions of dihydrotachysterol resemble those of calciferol and Vitamin D_3. It promotes the absorption of calcium from the intestine and the metabolism of calcium from bone as effectively as calciferol. Dihydrotachysterol acts more rapidly and is more rapidly eliminated than calciferol and its action is therefore more readily controlled; in practice, calciferol is generally used for the treatment of Vitamin D deficiency and dihydrotachysterol for other conditions.

5.2 Pharmacokinetic properties

Vitamin D substances are well absorbed from the gastrointestinal tract. The presence of bile is essential for adequate intestinal absorption; absorption may be decreased in patients with decreased fat absorption.

Vitamin D compounds and their metabolites are excreted mainly in the bile and faeces with only small amounts appearing in urine.

5.3 Preclinical safety data

Not applicable.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Arachis (peanut) oil

6.2 Incompatibilities

Not applicable.

6.3 Shelf Life

3 years.

6.4 Special precautions for storage

Do not store above 25°C. Keep the bottle tightly closed. Keep the bottle in the outer carton.

6.5 Nature and contents of container

15 ml amber glass bottle with an appropriate dropper capable of delivering 1 ml.

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

No special requirements.

7 MARKETING AUTHORISATION HOLDER

Intrapharm Laboratories Limited
60 Boughton Lane
Maidstone
Kent ME15 9QS
United Kingdom

8 MARKETING AUTHORISATION NUMBER

PA 997/1/1

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

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