SUMMARY OF PRODUCT CHARACTERISTICS

1 NAME OF THE MEDICINAL PRODUCT

Colecalciferol 20,000 IU Soft Capsules

2 QUALITATIVE AND QUANTITATIVE COMPOSITION

Each soft capsule contains:
20,000 IU colecalciferol (equivalent to 500 micrograms vitamin D_3)
For a full list of the excipients, see section 6.1.

3 PHARMACEUTICAL FORM

Soft capsule
Translucent soft gelatin capsules containing a clear liquid.

4 CLINICAL PARTICULARS

4.1 Therapeutic indications

Treatment and prevention of vitamin D deficiency.
As an adjunct to specific therapy for osteoporosis in patients with vitamin D deficiency.
The capsules are indicated for use in adolescents, adults and the elderly.

4.2 Posology and method of administration

Posology
Paediatric population
- Prevention of vitamin D deficiency 12-18 years: 20,000 IU (1 capsule) every 6 weeks
- Treatment of vitamin D deficiency 12-18 years: 20,000 IU (1 capsule) once every 2 weeks for 6 weeks

Not recommended for children under 12 years due to risk of choking.

Adults:

- Prevention of vitamin D deficiency: 20,000 IU/month (1 capsule), higher doses may be required in certain situations, see below
- Treatment of vitamin D deficiency: 40,000 IU/week (2 capsules) for 7 weeks, followed by maintenance therapy (equivalent to 1,400-2,000 IU/day, such as 2-3 capsules per month, may be required.

Follow-up serum 25(OH)D measurements should be made approximately three to four months after initiating maintenance therapy to confirm that the target level has been achieved.

Certain populations are at high risk of vitamin D deficiency, and may require higher doses and monitoring of serum 25(OH)D:

- Institutionalised or hospitalised individuals
- Dark skinned individuals
- Individuals with limited effective sun exposure due to protective clothing or consistent use of sun screens
- Obese individuals
- Patients being evaluated for osteoporosis
- Use of certain concomitant medications (e.g., anticonvulsant medications, glucocorticoids, anti-retrovirals)
- Patients with liver or renal disease
- Patients with malabsorption, including inflammatory bowel disease and coeliac disease
- Those recently treated for vitamin D deficiency, and requiring maintenance therapy.

Pregnancy and breastfeeding
Colecalciferol capsules are not recommended during pregnancy unless the clinical condition of the woman requires treatment.
Colecalciferol and its metabolites are excreted in breast milk. Overdose in infants induced by nursing mothers has not been observed but allowance for any maternal dose should be made when prescribing vitamin D products to a breast-fed child.

Method of administration
This medicine is taken orally.

The capsule should be swallowed whole with water, preferably with the main meal of the day.

4.3 Contraindications

Colecaliciferol capsules should not be used in patients with:

- Hypersensitivity to vitamin D or any of the excipients in the product
- Hypervitaminosis D
- Nephrolithiasis
- Diseases or conditions resulting in hypercalcaemia and/or hypercalciuria
- Severe renal impairment

This medicinal product contains traces of soya bean lecithin. If you are allergic to peanut or soya, do not use this medicinal product.

4.4 Special warnings and precautions for use

Vitamin D should be used with caution in patients with impairment of renal function and the effect on calcium and phosphate levels should be monitored. The risk of soft tissue calcification should be taken into account. In patients with severe renal insufficiency, vitamin D in the form of colecalciferol is not metabolised normally and other forms of vitamin D should be used (see section 4.3, contraindications).

Caution is required in patients receiving treatment for cardiovascular disease (see Section 4.5 – cardiac glycosides including digitalis).

Colecalciferol capsules should be prescribed with caution to patients suffering from sarcoidosis because of the risk of increased metabolism of vitamin D to its active form. These patients should be monitored with regard to the calcium content in serum and urine.

During long-term treatment with an equivalent daily dose exceeding 1,000 IU vitamin D the serum calcium values must be monitored. Renal function should also be checked by measuring serum creatinine. It is recommended to reduce the dose or interrupt treatment if the calcium content in the urine exceeds 7.5 mmol / 24 hours (300 mg / 24 hours).

Allowances should be made for vitamin D supplements from other sources.

The need for additional calcium supplementation should be considered for individual patients. Calcium supplements should be given under close medical supervision.

Medical supervision is required whilst on treatment to prevent hypercalcaemia.

Colecalciferol capsules should not be given to children under 12 years.

4.5 Interaction with other medicinal products and other forms of interaction

Concomitant treatment with phenytoin or barbiturates can decrease the effect of vitamin D because of metabolic activation. Concomitant use of glucocorticoids can decrease the effect of vitamin D.

The effects of digitalis and other cardiac glycosides may be accentuated with the oral administration of calcium combined with Vitamin D. Strict medical supervision is needed and, if necessary monitoring of ECG and calcium.

Simultaneous administration of benzothiadiazine derivatives (thiazide diuretics) increases the risk of hypercalcaemia.

Simultaneous treatment with ion exchange resins such as cholestyramine or laxatives such as paraffin oil may reduce the gastrointestinal absorption of vitamin D.

The cytotoxic agent actinomycin and imidazole antifungal agents interfere with vitamin D activity by inhibiting the conversion of 25-hydroxyvitamin D to 1,25-dihydroxyvitamin D by the kidney enzyme, 25-hydroxyvitamin D-1-hydroxylase.

4.6 Fertility, Pregnancy and lactation

Pregnancy
Studies have shown safe use of doses up to 4000IU during pregnancy although studies in animals have shown reproductive toxicity (see section 5.3). Adequate vitamin D intake is essential for maternal and fetal health during pregnancy, and epidemiological data indicate that many pregnant women have sub-optimal vitamin D levels. Notably, vitamin D deficiency correlates with preeclampsia, gestational

diabetes mellitus, and bacterial vaginosis, and an increased risk for C-section delivery.

Due to their high strength, Vitamin D3 20,000IU soft capsules are not recommended during pregnancy.

Breastfeeding
Vitamin D and its metabolites are excreted in breast milk. Overdose in infants induced by nursing mothers has not been observed; however, when prescribing additional vitamin D to a breast-fed child the practitioner should consider the dose of any additional vitamin D given to the mother.

Fertility
In studies in female rats the estrous cycle was disturbed. The changes were reversible and recovery was observed after the administration was discontinued. (see section 5.3). There are no data in humans concerning a possible effect of Vitamin D on fertility.

4.7 Effects on ability to drive and use machines

Colecalciferol capsules have no influence on the ability to drive and use machines

4.8 Undesirable effects

Adverse reactions are listed below, by system organ class and frequency. Frequencies are defined as: uncommon (>1/1,000, <1/100) or rare (>1/10,000, <1/1,000).

Metabolism and nutrition disorders
Uncommon: Hypercalcaemia and hypercalciuria.

Skin and subcutaneous disorders
Rare: Pruritus, rash and urticaria.

Reporting of suspected adverse reactions
Reporting suspected adverse reactions after authorisation of the medicinal product is important. It allows continued monitoring of the benefit/risk balance of the medicinal product. Healthcare professionals are asked to report any suspected adverse reactions via the Yellow Card Scheme at: www.mhra.gov.uk/yellowcard.

4.9 Overdose

The most serious consequence of acute or chronic overdose is hypercalcaemia due to vitamin D toxicity. Symptoms may include nausea, vomiting, polyuria, anorexia, weakness, apathy, thirst and constipation. Chronic overdoses can lead to vascular and organ calcification as a result of hypercalcaemia. Treatment should consist of stopping all intake of vitamin D and rehydration.

5 PHARMACOLOGICAL PROPERTIES

5.1 Pharmacodynamic properties

Pharmacotherapeutic group: Vitamin D and analogues

ATC code: A11CC05

In its biologically active form vitamin D_3 stimulates intestinal calcium absorption, incorporation of calcium into the osteoid, and release of calcium from bone tissue. In the small intestine it promotes rapid and delayed calcium uptake. The passive and active transport of phosphate is also stimulated. In the kidney, it inhibits the excretion of calcium and phosphate by promoting tubular resorption. The production of parathyroid hormone (PTH) in the parathyroids is inhibited directly by the biologically active form of vitamin D_3. PTH secretion is inhibited additionally by the increased calcium uptake in the small intestine under the influence of biologically active vitamin D_3.

5.2 Pharmacokinetic properties

Vitamin D is well absorbed from the gastro-intestinal tract in the presence of bile. It is hydroxylated in the liver to form 25-hydroxycolecalciferol and then undergoes further hydroxylation in the kidney to form the active metabolite 1, 25 dihydroxycolecalciferol (calcitriol). The metabolites circulate in the blood bound to a specific α - globin, Vitamin D and its metabolites are excreted mainly in the bile and faeces.

5.3 Preclinical safety data

Vitamin D is well known and is a widely used material and has been used in clinical practice for many years. As such toxicity is only likely to occur in chronic overdose conditions where hypercalcaemia could result.

Effects in non-clinical studies were observed only at exposures considered sufficiently in excess of the maximum human exposure indicating little relevance to clinical use. In addition, it has been demonstrated that some animal species (e.g., rats) may be too sensitive for results to be relevant to human risk assessment.

In studies in female rats the estrous cycle was disturbed with significantly lower estrogen levels being observed after more than 1 week of administration. The changes were reversible and recovery was observed in week 2 after the administration was discontinued.In both rats and rabbits, implantation and maintenance of the pregnancy were adversely affected by high doses of 1,25-dihydroxycholecalciferol

due to histopathological changes to the reproductive organs and biochemical parameters.

Colecalciferol has been shown to be teratogenic in high doses in animals (4-15 times the human dose). Offspring from pregnant rabbits treated with high doses of vitamin D had lesions anatomically similar to those of supravalvular aortic stenosis and offspring not showing such changes show vasculotoxicity similar to that of adults following acute vitamin D toxicity.

Vitamin D has no mutagenic potential. Carcinogenicity studies have not been reported, however carcinogenic risk is very low at physiological concentrations and at therapeutic concentrations intended to treat vitamin D deficiencies.

6 PHARMACEUTICAL PARTICULARS

6.1 List of excipients

Capsule content: refined sunflower oil, all-rac-α-tocopherol
Capsule shell: gelatin, glycerol, purified water, medium chain triglycerides, soya bean lecithin

6.2 Incompatibilities

Not applicable

6.3 Shelf life

18 months

6.4 Special precautions for storage

Do not store above 25°C.
Store this medicinal product in the original package in order to protect from light and moisture.

6.5 Nature and contents of container

Colecalciferol 20,000 IU Soft Capsules are available in polypropylene pots with an LDPE cap containing 20 capsules

6.6 Special precautions for disposal

Not applicable

7 MARKETING AUTHORISATION HOLDER

TOR GENERICS Ltd
Tudor House
Northgate
Northwood HA6 2TH
United Kingdom

8 MARKETING AUTHORISATION NUMBER(S)

PLGB 20491/0006

9 DATE OF FIRST AUTHORISATION/RENEWAL OF THE AUTHORISATION

17/03/2025

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