

VITAMIN D TREATMENT

A. VITAMIN D METABOLITES.

There are very few indications for the use of alfacalcidol (One-Alpha[®], Leo) and THIS SHOULD NOT BE USED FOR THE TREATMENT OF VITAMIN D DEFICIENCY as it does nothing to replace vitamin D stores.

The only indications are:

- 1) Treatment of patients with primary hypoparathyroidism or pseudohypoparathyroidism
- 2) Treatment of patients with 1-alpha hydroxylase deficiency
- 3) Treatment of patients with proven hypophosphataemic rickets including:
 - a. X-linked (XLHR - PHEX mutation)
 - b. Autosomal Dominant (ADHR - FGF23 mutation)
 - c. Autosomal Recessive (ARHR - DMP1 mutation)
 - d. secondary hypophosphataemic rickets that occasionally occurs in response to McCune-Albright Hereditary Osteodystrophy or Epidermal Naevus Syndrome.

It should NOT be used for Hereditary Hypophosphataemic Rickets with Hypercalciuria (HHRH).
- 4) Treatment of patients with Chronic Kidney Disease who are hypocalcaemic and/or have raised PTH. Even under these circumstances, it is important to ensure that vitamin D deficiency is not the cause of their raised PTH.
- 5) Occasional other patients.

Calcitriol (Rocaltrol[®], Roche) is very rarely indicated as it has a much shorter half-life than that of alfacalcidol (5-6 hrs c.f. 30-35 hrs) and has to be given 2-3 times a day. It is really only indicated if there is a problem with 25-hydroxylation of vitamin D which rarely occurs.

B. VITAMIN D

Theoretically coilecalciferol (D3) is a bit more effective than ergocalciferol (D2) for the treatment of vitamin D deficiency and, if possible, it would be best to have this available, wherever it is prescribed. Blood levels of 25OHD rise similarly after an oral dose of either ergo- or coilecalciferol but fall more rapidly if ergo- is used.

There should be available in pharmacy the following range of preparations:

- 1) Abidec/Dalivit for the routine supplementation of infants and children who need it. These are also available both over the counter without a prescription and from GPs. They both contain coilecalciferol 400 IU if used in the recommended doses.
- 2) A preparation (preferably coilecalciferol) that contains 3,000 IU (75 mcg)/mL*. This can then be given in a dose of 0.5 - 2 mL daily depending on the age and size of the child. These should also be available from community pharmacies although there have been supply difficulties.
- 3) A tablet preparation containing 10,000 IU (250 mcg) for older children and adolescents who require high dose replacement and who would prefer to take a tablet rather than the liquid which some people find unpalatable.

4) A tablet containing 50,000 IU (1,250 mcg) for use in the event that oral 'Stosstherapy' is considered the best option. This is best used if there are considered to be compliance issues, the total dose required being given in two divided doses over twelve hours.

5) IM vitamin D (this is usually ergocalciferol) in a strength of 600,000 IU (15,000 mcg)/mL for use in the event that IM 'Stosstherapy' is the best option. This is sometimes required if there are either compliance issues or if there are thought to be absorption problems. It cannot be given orally.

* Colecalciferol is available from Martindale Pharmaceuticals (0800 137627) and Ergocalciferol from Nova laboratories (0116 2230100). Both solutions contain 3,000 IU/mL.

PREPARATIONS AVAILABLE OFF PRESCRIPTION

In addition to these, patients could be advised that there are other preparations that contain vitamin D alone and are available either over the counter or by mail order on line. These include:

1) Holland & Barret:

http://www.hollandandbarrett.com/pages/vitamins.asp?afid=70&safid=ggl&scid=13436&cm_mmc=Google--Generic--TPO%20-%20Generic%20-%20Vitamins--vitamins

Two preparations that contain colecalciferol alone. There are two strengths:

- a) D3 400 IU (10 mcg) (£ 2-99 for 100 tabs)
- b) D3 1000 IU (25 mcg) (£ 6-99 for 100 tabs). They do also contain gelatin and the manufacturers are unable to say whether this is of pork, beef or vegetable origin and it may be unacceptable to those for whom these products are banned.

2) Healthy Direct:

<http://www.healthdirect.com/category/Category-Vegetarian/d.jsf>

They provide a 400 IU tablet (£4-99 for 180 tabs and £7-99 for 360 tabs) that is vegetarian friendly and presumably OK for those unable to take gelatin. There isn't a stronger tablet available from them.

3) Just Vitamins:

<http://www.justvitamins.co.uk/Products/Vitamin-D-400iu-1121.aspx?gclid=CIOq1suVjJwCFUQA4wodxQiiXg>

This contains 400 IU ergocalciferol (£ 4-75 for 180 tabs and £ 6-12 for 360 tabs) and is said to be suitable for vegans.

4) Nature'sRemedy:

http://www.naturesremedy.co.uk/page/vitamin_d_140.cfm?gclid=CJWOkeyWjJwCFdYB4wod804ZZg

They make four preparations:

- a) D2 400 IU (£3-99 for 60 tabs or buy 2, get one free)
- b) D3 400 IU (£3-99 for 60 tabs)
- c) D3 1000 IU capsules (£7-99 for 100 or £14-99 for 250 capsules) – these contain gelatin
- d) D3 5000 IU tablets (£14-99 for 60 tabs) - said to be suitable for vegetarians.

5) Bodykind:

http://www.bodykind.com/productindex.asp?CatID=179&Referer=Google_vitamin%20d&PartnerID=6&gclid=CJK9h72YjJwCFZkA4wodOHcjYA

They distribute four different preparations:

- a) From Higher Nature - D3 in 500 IU capsules (£ 2-90 for 60 capsules or £ 5-30 for 120 capsules)
- b) From BioCare - D3 in liquid form (£ 4-65 for 15 mL - 4 drops contains 50 IU) vegan friendly
- c) From Doctors Best - D3 in 1000 IU softgels (£ 7-95 for 180 softgels)
- d) From Doctors Best - D3 in 2000 IU softgels (£10-95 for 180 softgels)

6) Natures Best - 400 IU tablets (£ 4-84 for 180 tabs) not clear if this is D2 or D3 - suitable for vegetarians

7) In addition, there is a product which is available from the USA which has been deemed kosher.

NB Most of the multivitamin preparations that are available from retailers such as Boots the Chemist etc only contain 200 IU (5 mcg) vitamin D.

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