PATHOLOGISTS LANCET KENYA

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"Maabara ya Kisasa"

Information Newsletter

We are pleased to inform you that Lancet Kenya has slashed the prices for 25(OH) Vit D3 from Kshs.7500/= to Kshs.3,990/= which will be our new standard price effective 27th January 2010. The Lancet Group has revised the price for Vitamin D 25(OH) owing to increased volume of the tests being ordered, addition of new test platforms and higher turnover with reduced costs thus lower prices on the basis of economy of scale.
Please find some reading material below on Vitamin D insufficiency/deficiency in adults which may be of interest.
Pathology is our core business. We look forward to being of continued service to you.

Newsletter on Vitamin D Deficiency in Adults

Compiled by Dr Ahmed Kalebi from www.emedicine.com and other internet sources - January 2010

Background

Vitamin D is important for calcium homeostasis and for optimal skeletal health. Vitamin D deficiency in adults results in osteomalacia (softening of the bones due to defective bone mineralization). These adults can experience chronic muscle aches and pains.

The term vitamin D refers to either vitamin D2 or vitamin D3. Vitamin D3, also known as cholecalciferol, is either made in the skin or obtained in the diet from fatty fish. Vitamin D2, also known as ergocalciferol, is obtained from irradiated fungi, such as yeast. Vitamin D2 and vitamin D3 are used to supplement food products or are contained in multivitamins. Vitamin D3 appears to be more effective than vitamin D2 in establishing normal vitamin D stores.

Causes of Vitamin D deficiency in adults
Vitamin D deficiency can result from a variety of causes such as:
- inadequate exposure to sunlight
- malabsorption problems (poor absorption from food in the intestine)
- effects of certain medications

Who are affected
- Vitamin D insufficiency is highest among people who are elderly, institutionalized, or hospitalized.
- Studies have however shown that healthy young-middle aged adults get vitamin D insufficient when due to inadequate sunlight exposure.
- The rate is higher in women compared to men e.g. in the Middle East, this was significantly more common in women than in men (83.9% vs 48.5%), with the difference between sexes probably reflecting the cultural and religious practices leading to less skin exposure in women than in men.
- Darker-skinned adults absorb less sunlight radiation thus have less vitamin D production.
- Vitamin D production in the skin declines with advancing age

Adverse health effects of Vitamin D deficiency
- Vitamin D deficiency increases risk for hip and non-vertebral fractures, while supplementation using 25(OH)D [with or without calcium] offers fracture protection.
- Vitamin D insufficiency contributes to osteoporosis (low bone mass and loss of bone tissue) by decreasing intestinal calcium absorption.
- Vitamin D supplementation has been associated with a reduction in falls involving the older population. Vitamin D deficiency places adults at risk for developing cancer including breast, colon, and prostate cancer.
- Vitamin D insufficiency may increase the risk for type I and type II diabetes mellitus.

Investigation of Vitamin D insufficiency/deficiency
- Analysis of 25(OH)D levels in blood is the best test to determine vitamin D status.
- Parathyroid hormone (PTH) may be used to help establish the diagnosis of vitamin D insufficiency as patients with vitamin D insufficiency have a corresponding elevated PTH, indicating secondary hyperparathyroidism.

Prevention and Management of Vitamin D insufficiency/ deficiency
The following are recommendations for the prevention and treatment of vitamin D deficiency in adults:

Prevention
Inadequate sun exposure or if aging (age >50 y), pregnant, or lactating:
- Take 800-1000 IU vitamin D3 per day + sensible sun exposure, or
  - 50,000 IU vitamin D3 per month + sensible sun exposure
- Malabsorption syndromes - 50,000 IU of vitamin D2 every week
  - Drugs that increase the metabolism of activated vitamin D - 50,000 IU vitamin D2 every 1, 2, or 4 weeks

Treatment
- Inadequate sun exposure, or if aging (age >50 y), pregnant, or lactating :
  - 50,000 IU vitamin D2 per week for 8 weeks (Repeat for another 8 weeks if 25(OH)D remains low.
- Malabsorption syndromes
- UVB irradiation (tanning bed or portable UVB device)
- 50,000 IU of vitamin D2 every day or every other day
- Drugs that increase the metabolism of activated vitamin D - 50,000 IU vitamin D2 every 2 weeks for 8-10 weeks or every week if 25(OH) D is less than 30 ng/dL

Diet
- Individuals who do not have exposure to sunlight are at risk for vitamin D deficiency if they do not ingest adequate amounts of foods that contain vitamin D. However, most dietary sources of vitamin D do not contain sufficient amounts of vitamin D to satisfy daily requirements.
- Foods thought to contain high amounts of vitamin D3 are oily fish (for non-vegeterians) as well as fortified milk and other dairy products. Fortified milk, fortified orange juice, fortified cereal and Swiss cheese contain 50-100 IU of Vitamin D per serving, while most multivitamins contain 400 IU per tab.

Follow-up of Vitamin D deficient patients
- After correction of their vitamin D status with oral vitamin D, patients should have a repeat test of their 25(OH)D level to confirm that they are in the normal range. If a patient remains persistently low despite several attempts at correction with oral vitamin D, a trial of UVB light therapy (ie, by tanning lamps) may be considered to improve vitamin D status.

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