SQU Med J, August 2011, Vol. 11, Iss. 3, pp. 418–419, Epub. 15th Aug 11
submitted - 24th Apr

LETTER TO EDITOR

Re: Vitamin D Deficiency in Omani Women

رد على : نقص فيتامين (د) عند النساء العُمانيات

سوباش اريا، نيرمالا اجراوال

To the Editor,

We comment on the recent reports on vitamin D deficiency in Oman both in pregnant women[1] and those of childbearing age.[2] Our objective is to share the utility of an enzyme-linked immunosorbent assay (ELISA) for an in-house assay of vitamin D3 levels that will eliminate any outside evaluation.[1]

Vitamin D3 deficiency is being evaluated at Sant Parmanand Hospital, a 140-bed, tertiary care, multidisciplinary private hospital in Delhi, India. With effect from April 2010, 25-hydroxy vitamin D [25(OH)D] levels are measured in the hospital laboratory using commercially available ELISA kits. We use the 25(OH)D direct Elisa Kit (Immundiagnostik AG, Bensheim, Germany), based on a competitive ELISA technique with a selected monoclonal antibody that recognises 25(OH)D. The results are expressed, after point-to-point calculation, as nmol/l (with 1 nmol/L being equivalent to 2.5 ng/mL). Values ≥80 nmol/L correspond to a sufficient level of vitamin D, while those of <50 nmol/L to a deficient, and 50–75 nmol/L to an insufficient level.

Among 20 pregnant women in delivery more than 75% were deficient in 25(OH)D. Vitamin D3 levels exceeded 75 nmol/l in three, while in two the respective values were between 50–74 nmol/l, and 15 had levels below 25 nmol/l.3

Future plans to address vitamin D deficiency in Oman[1,2] should, in our opinion, include both vitamin D3 supplementation and a watch on post-supplementation vitamin D3 levels. A daily supplementation of 1000 IU of vitamin D3 may fail to bring levels to a minimum of 75 nmol/l in 20–30% cases.[4]

In view of the global prevalence of vitamin D deficiency among women of childbearing age,[1,2,3] it would be desirable to initiate simple and rapid point-of-care assays for quantification of vitamin D3 levels in the general population, both in rural and urban areas.

*Subhash C. Arya and Nirmala Agarwal
Sant Paramanand Hospital
Delhi, India
Corresponding Author email: subhashbhapaji@gmail.com

References

1. Al Kalbani M, Elshafie O, Rawahi M, Al-Mamari A, Al-Zakwani A, Woodhouse N. Vitamin D status in pregnant Omanis: A disturbingly high proportion of patients with low vitamin D stores. Sultan Qaboos Univ Med J 2011; 11:52–5.
2. Al-Kindi MK. Vitamin D Status in Healthy Omani Women of Childbearing Age: Study of female staff at the Royal Hospital, Muscat, Oman. Sultan Qaboos Univ Med J 2011; 11:56–61.
3. Agarwal N, Arya SC. Vitamin D(3) levels in pregnant women and newborns at a private tertiary care hospital in Delhi, India. Int J Gynaecol Obstet 2011; 113:240–1.
4. Schwalfenberg GK. A step in the right direction. CMAJ 2010; 182:1763. doi:10.1503/cmaj.110-2118.

Author's Response

I read with interest the comments raised by Dr Subhash concerning my article.[1] At the time of conducting my work in 2006, the 25-hydroxy vitamin D assay was neither available at the Royal Hospital Laboratory, nor in many other hospitals in Oman so samples were sent for testing to referral laboratories outside the country. However, during the last 3–4 years there has been an increasing awareness of and interest in the physiological, pathological and therapeutic aspects of vitamin D. This has led to a tremendous increase in vitamin D testing worldwide. At the Royal Hospital, the vitamin D testing workload has increased several-fold, and still continues to expand. Hence, we have been performing the measurement in-house since mid-2009 using the ELISA technique (IDS UK Healthcare Marketing). In order to keep pace with the rising demand, we now hope to adopt an automated assay using a well validated method. Finally, for the interpretation of vitamin D results, we are using the following cut-off points: <50 nmol/l = deficient, 50–75 nmol/l = insufficient and >75 nmol/l = sufficient.

Manal Al-Kindi
Department of Chemical Pathology
Directorate of Medical Laboratories
Royal Hospital, Oman
Email: manal.kalifa@moh.gov.oom

Reference

1. Al-Kindi MK. Vitamin D status in healthy Omani women of childbearing age: Study of female staff at the Royal Hospital, Muscat, Oman. Sultan Qaboos Univ Med J 2011; 11:56–61.