

Vitamin D, Calcitriol and Ayurveda

Nowadays, a good percentage of the world population including Indians is suffering from deficiency of Vitamin D. This in turn causes Calcium deficiency in our body. Actually speaking vitamin D is non functional, but its metabolite called calcitriol which is produced in kidney is the functional unit. Calcitriol's function is to stimulate the nucleus to produce calcium binding proteins so that sufficient amount of calcium is absorbed from food. Many other cells and tissues also need calcium binding proteins for absorbing calcium for that particular site. Concentration of calcium in turn affects the concentration of other minerals such as phosphorous, zinc, magnesium, etc. Thus altogether Vitamin D deficiency affects the normal physiology in a negative way and causes variety of symptoms. It is said that only 10% of the required amount of Vitamin D is available through foods like fish, milk, egg, etc.

The other 90% is to be synthesised endogenously with the help of UVB rays in the sunlight. With life styles changing, a good percentage of people get very little exposure to sunlight. They suffer from Vitamin D deficiency diseases. Allopathy doctors can prescribe Vitamin D3 available in pharmacies for these patients but we ayurveda doctors are not allowed to. We can ask the patient to get exposed to sunlight but several patients find that the nature of their jobs keep them indoors for most of the day.

As physicians we ought to find remedies for the so called vit D deficiency syndrome. Now looking at the symptoms Vitamin D deficiency causes, we feel that without the support of Vitamin D3 supplement we are not able to treat a lot of diseases which we were effectively treating earlier.

As we all know, our Acharyas have already described the cause, symptoms, treatment and the curing possibility of all diseases. But none of them have given any reference in their treatment descriptions to the role of sunrays, except in swithram. This has led to an interpretation that the Acharyas were not particular in the exposure to sunlight for cure. They have created effective herbal, mineral and herbomineral yogas for signs and symptoms that can be manifested.

I shall explain my view on this matter.. For that we must have an understanding about the biosynthesis of Vitamin D.

A sterol named 7 dehydrocholesterol is produced in the liver and secreted into the blood. This is stored in the epidermal layer of the skin. When the UVB rays of the sun penetrates the skin, 7 dehydrocholesterol is converted into pre-Vitamin D3 and then immediately into Vitamin D3 (Cholecalciferol). This is non-functional. This Vitamin D3 enters the liver and gets converted into 25, hydroxycholecalciferol (calcidiol). This is the metabolite, we are testing in the name of Vitamin D3. This is also non-functional. This calcidiol is secreted into the blood stream and then enters the kidney. Here, it gets converted into 1, 25, dihydroxycholecalciferol (Calcitriol). This metabolite (calcitriol) is the functional unit.

So, from the above description, it is clear that, if we supply calcitriol through food or medicine, there is no need of the precursor Vitamin D3. Let us see, how it is possible to supply calcitriol.

Studies have proved that the plants belong to the family solanaceae, poacea, fabacea and cucurbitacea contain calcitriol. In our vathahara thailams and Vathahara ghrithams we use several of these herbs.. Aswagandha, Bhrihathidwayam, Kantakari, Kakamachi of solanaceae family thrunadhanyam, doorva, kera, thrunapanchamoola from poacea family kapikachhu, shankapushpi, methi, mudga, masha of fabacea family and patola, abheeru, kooshmanda, koshathaki of cucurbitacea family are examples. We use several of these as food also. So by consuming vathahara thailams or ghruthams and proper food we can ensure supply of calcitriol to those who suffer from Vitamin D deficiency.

This calcitriol is a sterol, which is soluble in fat but not in water. So, if it is made into Kwatha, we cannot expect the presence of calcitriol. Since our vathaharathailams contain both cholesterol (from milk) and triglycerides, presence of calcitriol can be expected.. Moreover since milk contains calcium we can say that we are providing calcitriol with calcium. Also studies say that kwatha is not a simple solution of water soluble particles but a colloidal suspension of soluble and insoluble particles.

Then why is the plasma concentration of calcitriol not tested and supplemented ? The reason is that till the day, the normal range of calcitriol in plasma is not fixed. So, it is difficult to fix a dosage also. But in the case of patients with kidney disfunction calcitriol is prescribed.

So, from the above description, it is clear that our Vathahara thailams, Ghrithams, and Choornams which contain calcitriol can address the so-called Vitamin D deficiency syndrome. We have a wide range of Vathaharathailams and Ghrithams which promise cure for ailments in different areas of our systems. We just have to select the one which fits into the symptoms of each patient.

Above all, it is proved that plants which belong to the algae and lichen groups contain Vitamin D3 itself. Our vegetarian Vathaharathailams contain Shaileyam(Parmelia Perlata) which is a lichen. An article titled “Vitamin D3 in plants” is available on the internet on this subject. Shaileyam is one among the ingredients of kalka in most of the Vathaharathailams. This Shaileyam is called ‘Cheleyam’ or ‘Kalpoovu’ in regional languages. Unfortunately, nowadays, we are using substitute called Cheleyam instead of shaileyam (Parmelia Perlata). This may be due to the non-availability of this particular lichen in Kerala. But, we can think about reintroducing Parmelia Perlata in our Thailams by bringing it from Tamilnadu or North India.

So, it is time for us to concentrate more on our Vathaharathailams like Dhanwantharamthailam, Balathailam, Narayanathailams, Himasagarathailam, Prasaranayadithailams, Maharajaprasaranithailam, Ghandhathailam, Sarvamayanthakamghrutham ,Gulguluthikthakam ghrutham etc. Most of these are meant for chathushprayogas. However for the manufacturing companies, it is uneconomical to manufacture all the thailams in all the three pakams (mridu, chikkana, kharachikkana). So for internal use they manufacture a few of these thailams under the category of sevyathailams. But still we have a wonderful selection of sevyathailams.

Since more and more people are being affected with the so-called Vitamin D deficiency syndrome, it is time for us to give a little more attention on our Vathaharathailams. If we go through the phalashruthi of these thailams, we will be able to select those which can take care of all the symptoms manifested in the patient.

So I believe that staying grounded to our principles and depending on the phalashruthi of our Vathaharathailams and Vathaharaghrithams, we can effectively treat the Vitamin D deficiency syndrome.

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This Article is written by Dr.Padmaja Ramachandran, B.A.M. (Reg. No.4915)
Mobile No.9995839826