Cobbwebs
News and Views

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COVID-19 PANDEMIC and D3

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'What is D3?' I hear you say, and 'what is it to do with the pandemic?'

Work done by **Emeritus Professor Peter Cobbold (born 1945)** #10254 on the web family tree and others shows its enormous significance in the pandemic.

Current recommendations in the UK for D3 supplementation are woefully inadequate, and are predicated on what - decades ago - was found to be the level for the prevention of rickets. D3 deficiency is widespread but often unrecognised and has great significance in many chronic diseases, which has still to be appreciated in the wider professional community, let alone the public. Most researchers into D3 regard it as making a significant contribution to ending the COVID pandemic, providing recommendations for supplementation are revised upwards several fold. Emeritus Professor Peter Cobbold has provided a lay summary of this enormously important hormone.

This note is about the potential benefits of 'vitamin' D3 against COVID-19. The note was written for a lay audience but I find most medical professionals of my acquaintance were unaware, and took action personally.

What is "D3" ? It used to be called a vitamin. But nowadays the majority of research

papers, around 5000 per year, refer to it as **"The secosteroid hormone D3**". D3 acts as a super-promoter to control around 2000 genes, one in ten of our genome, and plays a defensive role. And the majority of the world's population is deficient. D3 deficiency often goes unrecognised and is common in the elderly, the population most at risk from COVID-19. When I gave a talk on D3 to local U3A (University of the Third Age) several of the audience had their blood level measured with a test bought online. Two were severely deficient, but were unaware. The talk is here and covers the basics of D3 science and supplements, and shows D3 impacting an enormous breadth of disease: https://u3asites.org.uk/files/b/berwyn/docs/vitamind3deficiency.pdf

D3 for COVID-19 ?

There is a possibility that D3 can help protect us against a serious, possibly fatal, bout of COVID-19. In the absence of vaccine or drug, D3 deserves serious consideration, especially as amelioration for the elderly who are most at risk of dying.

D3 will improve immune defence against the virus causing COVID-19, but the dosage is uncertain. Why? There is a long-standing disagreement between clinicians with a historical bias and scientists and clinician-scientists who take a more science-based approach. The key difference is whether D3 is a vitamin whose dose is to be determined as if it were a drug, ie minimal effective dose, or is D3 a hormone with a blood level determined by physiology. The late Dr Robert Heaney MD was a clinician-scientist with a life-long record in D3 research. In his talk he lays out the evidence that the physiological serum concentration of 25(OH)D3 (the routine measurement) is 100 to 125 nmol/L. The Vitamin D Receptor has evolved over 500 million years along with D3 so defining the physiological blood level should be a fundamental quantity in determining therapy, but is not...yet.

Heaney then defines the D3 supplements needed to get to physiological level in winter as 2000 International

Units per day rising to 4000 IU pd in the elderly. His parting comment tells us his scientist team average 5,000 IU pd.

https://ucsd.tv/search-details.aspx?showID=29077

Physiological criteria point to a higher serum level than will be achieved by the more cautious “D3 as a drug” clinicians' opinions. Most clinical trials of cautious supplements of D3 for flu have delivered uncertain results with a hint of protection only. However, when the physiologically-defined serum level is used to define 'adequate', the effectiveness of D3 jumps off the page. This Yale study compared the progression of infection in a population with 100 nmol/L or above, and below 100nmol/L (multiply their ng/ml by 2.5 to get nmol/L).
https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0011088

How does D3 combat viruses?

D3 is a hormone that controls expression of around 2000 genes, 10% of our genome. It has broadly defensive role and is important in modulating a host of chronic diseases. D3 protects from microbes by activating our innate immune system, the first line of defence before the adaptive immune system kicks in to generate neutralising antibodies. D3 promotes expression of genes for cathelicidin and defensins, which are antimicrobial peptides that destroy fungi, bacteria and enveloped viruses such as 'flu. Corona viruses are also enveloped and unlikely to escape destruction. Additional anti-microbial peptide actions in lung epithelia, induced by D3, are here (for experts):
https://journals.sagepub.com/doi/pdf/10.1177/1753425910365734

Finally, how much D3 supplement do I and my family and friends take? It ranges between 2000 and 4000 IU pd. Our response to supplements will vary, but 2000 gave me 100nmol/L and 4000, 160 nmol/L, nicely physiological. It requires ca 2 to 3 months to reach a new stable 25(OH)D3 after starting supplements. However faster equilibration is possible, as in this talk:
https://www.youtube.com/watch?v=VQkx06k7AKk&feature=youtu.be

Finally, this talk emphasises the enormous gulf between scientific knowledge of D3 and the failure of medical authorities to act:
https://www.youtube.com/watch?v=v3pK0dccQ38

For any Cobbolds willing to embrace the jargon, here is our latest attempt to raise awareness of D3 in protecting us all from COVID-19:

https://www.bmj.com/content/369/bmj.m1548/rr-6

Dr David Grimes has plotted the Philippines data here:
http://www.drdavidgrimes.com/2020/04/covid-19-vitamin-d-and-ethnicity.html

- most UK elderly will be in the orange group.

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