VITAMIN D
UpDates

Copyright by
Pacini Editore srl

Managing Director
Patrizia Pacini

Edition
Pacini Editore Srl
Via Gherardesca 1 • 56121 Pisa
Tel. 050 313011 • Fax 050 3130300
Info@pacinieditore.it - www.pacinieditore.it

Pacini Editore Medicine Division
Fabio Poponcini • Business Unit Manager
Tel: 050 31 30 218 • fpoponcini@pacinieditore.it

Alessandra Crosato • Account Manager
Tel: 050 31 30 239 • acrosato@pacinieditore.it

Francesca Gori • Business Development & Scientific Editorial Manager
fgori@pacinieditore.it

Manuela Mori • Digital Publishing & Advertising
Tel: 050 31 30 217 • mmori@pacinieditore.it

Editing
Lucia Castelli
Tel. 050 3130224 • lcastelli@pacinieditore.it

Graphics and pagination
Massimo Arcidiacono
Tel. 050 3130231• marcidiacono@pacinieditore.it

Print
Industrie Grafiche Pacini • Pisa

ISSN: 2611-2876 (online)

Registration at the Court of Pisa no. 2/18 dated 23/2/2018
The editor remains available to those who are entitled with whom communication has not been possible as well as for any omissions. Photocopies for the reader's personal use (for their pro- reading, study or consultation) may be made within the limit of 15% of each volume/file of the periodical, excluding advertising pages, upon BP to SIAE of the fee provided for by Law no. 633 of 1941 and following the specific authorisation release of the by CLEARedi: https://www.clearedi.org/top-menu/HOME.aspx. Digital edition - March 2024.

EDITORIAL

Maurizio Rossini

Department of Medicine,
Rheumatology Section, University of Verona

2024;7(1):2-3

Dear Readers,
In this issue, you will find an update on the discussion of the possible role of vitamin D in cardiovascular diseases and certain mental disorders, thanks to the invaluable contributions of our expert authors.
Notice how both authors have acknowledged the persistent discrepancies found among some of the results generated by the observational studies and those from some interventional trials, or the lack thereof coming from the latter. As we all know, observational studies are sometimes at risk of confounding factors such as "reverse causality", especially for those studies on vitamin D. Given its endogenous synthesis mechanism and metabolism, Vitamin D deficiency may be a consequence, rather than the cause, of a disease state. Today, this risk can be mitigated by new methods, such as Mendelian randomisation, which involves the use of allelic variants of one or more genes involved in the coding of certain biomarkers. In observational studies using this method, in a population observed and followed over time to assess the incidence of certain events, subjects were compared with one or more gene variants that determined higher or lower serum levels of 25(OH)D, in our case. Thus, an interventional randomized controlled trial (RCT) is simulated, RCT difficult to conduct not only due to economic reasons but also, I would venture, ethical ones. As you will see in this issue, the studies conducted so far with this method provide support for the cause/effect correlation between vitamin D deficiency and mortality or morbidity.
Recently published, there are the results of another approach, which, in my opinion, appear to be a kind of "counterevidence", and may be viewed as further support for an extra-skeletal clinical benefit of vitamin D supplementation.
As previously indicated [1] and also commented on in this journal [2], the VITAL randomised trial, designed primarily to study the effects of vitamin D and omega-3 supplementation on incident cancer and cardiovascular disease, showed that 5 years of vitamin D supplementation was associated with a 22% reduction in the risk of the onset of autoimmune disease. Researchers Karen H. Costenbader et al. have now reported that among the 21,592 participants in the VITAL study who agreed to be followed up for another 2 years after discontinuation of supplementation with 2000 IU/day of cholecalciferol, the protection against autoimmune diseases was no longer statistically significant [3]. Thus, discontinuation of vitamin D supplementation can be associated with a resumption of the risk of autoimmune diseases. In my opinion, first of all, the results of the VITAL study extension have confirmed that the correlation between vitamin D supplementation and the reduction of the risk of autoimmune diseases was not coincidental. The results also suggest that vitamin D supplementation should be administered on an ongoing basis for the long-term prevention of autoimmune diseases, also because the risk of a return to a deficient condition is not today unlikely. This comment was made in connection with the results of the VITAL study in the Italian Medicines Agency's Note 96 background section [4]: "According to the results

Correspondence
Maurizio Rossini
maurizio.rossini@univr.it

How to cite this article: Rossini M. Editorial. Vitamin D - UpDates 2024;7(1):2-3.

obtained, 2000 years/person of vitamin D supplementation would have been required to avoid one case among the 32 diagnoses of autoimmune disease". I do believe that if the benefit in terms of people to be supplemented/year were more properly expressed, an intervention to supplement at-risk populations would be entirely feasible and cost effective because supplementation would significantly reduce the incidence of autoimmune diseases of significant impact in terms of disability, mortality, social and healthcare costs. What are your thoughts?
Happy reading!

References

1. Hahn J, Cook NR, Alexander EK, et al. Vitamin D and marine omega 3 fatty acid supplementation and incident autoimmune disease: VITAL randomized controlled trial. BMJ 2022;376:e066452. https://doi.org/10.1136/bmj-2021-066452
2. Adami G. Studio VITAL: luci e ombre. Vitamin D – Updates 2023;6(1):4-8. https://doi.org/10.30455/2611-2876-2023-1
3. Costenbader KH, Cook NR, Lee IM, et al. Vitamin D and marine n-3 fatty acids for autoimmune disease prevention: outcomes at two years after VITAL Trial Completion. Arthritis Rheumatol 2024 Jan 25. https://doi.org/10.1002/art.42811
4. https://www.aifa.gov.it/documents/20142/1728113/nota-96.pdf