LETTER TO THE EDITOR

Response to a letter commenting on “Vitamin D deficiency in Crohn’s disease and healthy controls: A prospective case–control study in The Netherlands”

Dear Sir,

We thank Dr Azzopardi and Dr Ellul for their interest in our data regarding vitamin D deficiency in Crohn’s disease (CD) patients as well as in healthy controls. They found that in Maltese CD patients, only 6 out of 101 CD patients had vitamin D deficiency. Moreover, disease phenotype was different in vitamin D deficient patients with more ileal involvement and stricturing/penetrating disease behavior.

In our cohort, we found no statistical significant difference in disease location or disease behavior between patients with adequate and deficient vitamin D levels. We did however observe trends similar to those reported by Azzopardi et al. Patients with low vitamin D levels more often had involvement of the ileocecal region than patients with normal vitamin D levels (63% versus 11%, p = 0.09). Moreover more CD patients with low vitamin D had ileal disease involvement (8% versus 3%), a history of small intestinal resection (37% versus 8%) or ileocolic resection (40% versus 6%), stricturing disease behavior (68% versus 16%), or penetrating disease behavior (59% versus 15%). Although this data is in line with that reported by Azzopardi et al., none of these correlations reached statistical significance.

Dietary vitamin D is mainly absorbed in the jejunum. Vitamin D deficiency has therefore been reported in patients who underwent small intestinal resections, although others did not find any difference in disease location or previous surgeries. Considering the monthly sunshine hours in Malta are almost the double of that in The Netherlands, the data from Azzopardi et al. may give an optimistic estimation of the vitamin D levels in relation to northern Europe. Since only 6/101 patients had vitamin D deficiency, the numbers are relatively small in comparison with the 82/101 patients in our hospital. Moreover in our cohort, in linear regression analysis neither disease location nor disease behavior nor previous surgeries correlated with vitamin D levels.

NOD2 mutations are known to be associated with fibrostenotic disease behavior. Signaling through NOD2 induces the function of the NFκB transcription factor. Vitamin D enhances the NOD2/NFκB mediated expression of antimicrobial peptides and leads to a reduction of NFκB mediated production of tumor necrosis factor. This effect is abrogated by the loss of function mutation in the NOD2 locus. Therefore linking vitamin D deficiency, stricturing disease phenotype and NOD2 mutation would be very interesting in these Maltese patients.

In conclusion, the study of Azzopardi et al. stresses the importance of vitamin D screening in CD patients, similar to our observations. The observation that this is of main importance in patients with ileal disease activity may be a meaningful contribution to this, but further analysis of a genetic component to this correlation is required.

Conflict of interest

The authors of the reply to the Letter to the Editor of our published paper (CROHNS-D-13-00608R1) “Vitamin D deficiency in Crohn’s disease and healthy controls: A prospective case–control study in The Netherlands” have no conflicts of interest to declare.

References

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