CORRESPONDENCE

Authors’ response to Young and Hopkins: vitamin D and lung function

We thank Dr RP Young and Ms RJ Hopkins for their interest in our article and their constructive comments.1

We agree with Dr RP Young and Ms RJ Hopkins that our analyses may suggest a threshold effect. However, we believe that more studies are needed before we firmly can assume a threshold effect. It is true that the association between vitamin D level and FEV1% predicted was mirrored by a corresponding association between vitamin D and FVC% predicted. Therefore in our main analysis, the vitamin D level was not significantly associated with the FEV1/FVC ratio. This general reduction of lung volumes in individuals with low vitamin D levels could, as suggested by Young and Hopkins, be caused by general frailty or weakness and not by an intrapulmonary process. Yet, as we observed a significant interaction, suggesting a stronger association between vitamin D and FEV1% pred in individuals with airway obstruction we concluded that low vitamin D levels may play a role with regard to development and in particular progression of COPD.2 It was not our intent to claim that low vitamin D is a cause of decreased lung function, as observational studies like ours are subject to reverse causation and confounding as rightly pointed out by Young and Hopkins. We rather sought to report the observed association and fully agree that these associations could be confounded by or mediated through, for example, systemic inflammation. Indeed, we have previously reported that markers of systemic inflammation like elevated fibrinogen and C reactive protein are associated with reduced lung function, increased risk of COPD and prognosis in COPD.3–5 Therefore, we agree that future studies on the relationship between vitamin D and lung function and COPD should include possible confounding or mediation through systemic inflammation.

Shoaib Afzal,1,2 Peter Lange,2,3,4,5 Stig E Bojesen,1,2,3,6 Jacob J Freiberg,1,2 Børge G Nordestgaard1,2,3,6

1 The Department of Clinical Biochemistry, Herlev Hospital, Copenhagen University Hospital, Herlev, Denmark
2 The Copenhagen General Population Study, Herlev Hospital, Copenhagen University Hospital, Herlev, Denmark
3 The Copenhagen City Heart Study, Frederiksberg Hospital, Copenhagen University Hospital, Copenhagen, Denmark
4 Faculty of Health and Medical Sciences, Department of Public Health, Section of Social Medicine, University of Copenhagen, Herlev, Denmark
5 Section of Respiratory Medicine, Hvidovre Hospital, Copenhagen University Hospital, Herlev, Denmark
6 Faculty of Health and Medical Sciences, University of Copenhagen, Herlev, Denmark

Correspondence to Professor Børge G Nordestgaard, Department of Clinical Biochemistry, Herlev Hospital, Copenhagen University Hospital, Herlev Ringvej 75, Herlev DK-2730, Denmark; Borje.Nordestgaard@regionh.dk

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