Author's response to reviews

Title: Bone and body composition analyzed by Dual-energy X-ray Absorptiometry (DXA) in clinical and nutritional evaluation of young patients with Cystic Fibrosis: a cross-sectional study

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Author's response to reviews: see over
Dear Editor,
I am sending to you a new version of the manuscript entitled "Bone and body composition analyzed by Dual-energy X-ray Absorptiometry (DXA) in clinical and nutritional evaluation of young patients with Cystic Fibrosis: a cross-sectional study" that has been revised according to the specific comments raised by the Reviewers. We feel that the manuscript has improved and thank you and the Reviewers for their helpful suggestions.

Looking forward to hearing from you,
Kind regards

Vincenzina Lucidi

List of replays to Reviewers

Replay to Reviewer Robert M Aris

As suggested, we looked at plain chest X-rays (lateral projection) and excluded the presence of unknown vertebral fractures in all CF patients enrolled in our study. These data confirm the low fracture incidence in CF patients, as previously described in literature.

Replays to Reviewer Isabelle Sermet-Gaudelus

1) For every patient we selected one control subject with the same pubertal stage. Of 82 patients enrolled in our study, 28 were in the prepubertal stage. We have added a table (table 3) describing the different distribution of BMD Z score in prepubertal and pubertal subjects. Differently from data reported by Buntain et al (Thorax 2006), we observed a normal BMD only in 11 (39.3%) out of 28 prepubertal subjects; this discrepancy is probably due to differences in sample size and composition of the study population.

2) Vitamin D deficiency is common in CF patients but its role in bone disease is still uncertain. In our work, all patients took an oral multivitamin preparation, including 400 UI/day of vitamin D. However, we did not study the 25(OH)vitamin D serum levels in our population and this is a drawback of our study.

3) Cumulative dose of inhaled steroids was calculated in mg as the product of mean daily dose X 365 X duration in years. Mean cumulative dosage was 721 mg ± 185. It was higher in the group of patients with severe BMD reduction (BMD < -2) compared to other patients, but the difference did not reach the statistical significance (p=0.06). However, we cannot exclude an influence of continued inhaled steroids on bone mass reduction of our CF patients.

4) BMD Z score was significantly reduced in the group of subjects (n=12) with BMI SDS < -1 in comparison with the group of subjects with BMI SDS > -1 (-2.00±1.59 vs -1.04±1.02, p=0.0076). However, due to the small size of the group of patients we could not analyze the independent effect of reduced weight and low lean mass on BMD.

5) The points in all figures have been made bigger.