



Evaluation of factors affecting bone mineral density in CF patients through CF registry of Turkey

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Abstract

Introduction or Background: With the prolongation of life expectancy in cystic fibrosis(CF),the incidence of late complications,including bone disease,increases. Early diagnosis and treatment of the bone disease will prevent the development of complications.

Aims and Objectives: To determine the prevalence of bone disease and the factors that may affect bone mineral density of CF patients,based on the 2019 data of Cystic Fibrosis Registry of Turkey(CFRT).

Methods: The frequency of osteopenia/osteoporosis in CF patients ≥ 8 years-old and demographic data,genotype,clinical findings,lung functions,bacterial colonization and treatments of patients with bone disease were examined through CFRT.

Results: Of 1631 patients registered,804(49%) patients were ≥ 8 years-old. The mean age was 14.41 ± 5.54 years,56.8% were female.117(14.6%)patients were osteopenic and osteoporosis was detected in 58(7.2%)patients. When we compare the groups with and without osteoporosis,we found that osteoporosis group was older($p=0.047$);used more inhaled mannitol($p<0.001$),antibiotic($p=0.002$),oxygen($p=0.000$),oral steroid($p=0.038$),enteral nutrition($p<0.001$) insulin($p=0.001$);have more *P. aeruginosa* colonization($p<0.001$),pneumothorax($p=0.007$),hemoptysis($p=0.047$);lesser FEV1($p<0.001$),FVC($p<0.001$). Comparison of body mass index and mutation classification(severe/mild) revealed no difference.

Conclusion: The risk of osteopenia and osteoporosis increases with age, clinical worsening, vitamin deficiencies and some complications with poor prognosis in CF patients. In the presence of defined risk factors in CF patients, BMD screening programs should be performed in routine follow-up and their treatment should be arranged in the early period.

[Cystic fibrosis](#) [Children](#) [Chronic diseases](#)

Footnotes

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