Reviewer's report

Title: Osteoporosis in Canadian Adult Cystic Fibrosis Patients: A Descriptive Study

Authors:

Ms Christine Brenckmann (cbrenckmann@hotmail.com)
Dr Alexandra Papaioannou (papaioannou@hhsc.ca)
Andy Freitag (freitaga@mcmaster.ca)
Rosamund Hennessey (hennessey@hhsc.ca)
Suzanne Hansen (shansen@hhsc.ca)
George Ioannidis (g.ioannidis@sympatico.ca)
Colin Webber (webberc@mcmaster.ca)
Jonathan Adachi (jd.adachi@sympatico.ca)

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Reviewer: Larry Lands

Level of interest: A paper whose findings are important to those with closely related research interests

Advice on publication: Accept after discretionary revisions

REVIEW OSTEOPOROSIS IN CANADIAN ADULTS - CYSTIC FIBROSIS PATIENTS
by Brenckmann et al
This is a first review of the prevalence of osteoporosis in an adult CF population in Canada and of non-vertebral fractures. Forty patients were evaluated, of which 27 had scans one year apart. As reported in other CF populations, the prevalence of osteoporosis is high. The fracture rate was low but this may be attributed to a small sample size. The study is useful as it defines a Canadian population. However, the sample size is small and there is limited use of the data that the authors have presented. It would have been useful if the authors had compared between genders and also between those with and without osteoporosis. There are numerous variables presented in Table 1, yet there is no comparison or correlation done with the bone measurements. The authors mention a lower limit of acceptable of vitamin D levels yet it is unclear whether these are winter or summer values and whether these values are high enough to prevent secondary hyperparathyroidism.
Specific comments: in the Abstract, they mention three measures; total hip, femoral, neck and lumbar spine yet only mention that two decreased and so the sentence was confusing.
In the Background, mention should be made of the current median survival in Canada which I believe is 35.6 years. In the second paragraph of Background, other factors such as inflammation, malnutrition and physical inactivity are also significant contributors to osteoporosis and deserve to be mentioned. On page 5, rather than birth control pill or the pill, "an oral contraceptive" should be used. On page 6, as discussed above, very little sub-group analysis was done. I recognize that the sample size is somewhat restrained, however the data is not taken full advantage of. At the top of page 7 oral corticosteroids are mentioned but there is nothing concerning dose, such as mg / year cumulative.
On page 8, the first paragraph, second to last sentence does not really read as a sentence and it is not really clear why accurate height measurements could not be obtained. On page 10, the vitamin D result should be mentioned in the Results section and discussed in the Discussion. As mentioned above, there needs to be some further explanation of why they chose 16 ng / ml as the lower limit for vitamin D. The authors should also address gamma GT which is usually a measure of liver function and not necessarily associated with bone disease. In figure I and also to be included in the text,
there should be some sort of notion of when the vitamin D levels were drawn given the seasonal variability in this measure. In summary, the results are somewhat useful for the Canadian CF community. However, maximum advantage of the data has not been made and there should be a significant revision before this manuscript is accepted.

**Competing interests:**

None declared.