



PCOS and bone fractures

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Dear Editor-in-Chief, Dr. Yoshiki Seino.

JBMRM has recently published a work of Yang et al. entitled “Increased risk of fractures in patients with polycystic ovary syndrome: a nationwide population-based retrospective cohort study” [1]. In this study, the authors addressed the impact of PCOS in the development of bone fractures in Taiwanese women (between 15 and 80 years). That was a retrospective longitudinal study which evaluated a large population data set (11,106 participants with PCOS and 44,424 without PCOS from 2000 to 2012).

The investigators reported a higher risk of total bone fractures in women diagnosed with PCOS. Remarkably, women before 30 years of age exhibited a significant increase in humerus fractures, while those after 30 years and later showed more vertebral and forearm fractures [1].

The study provided valuable and compelling results and discussed well its main limitations. However, one important issue of the study regards the information of BMI of participants, relevant to speculate about the reasons why PCOS exhibited a higher incidence of bone fractures. This piece of information could help us to understand the contrast of results with a previous population enquire in Denmark which observed a reduction in the number of total fractures in PCOS women before 30 years of age [2]. Indeed, it is not impossible that ethnic variability may also have a role in the occurrence of fractures.

We have published, in 2016, a study about bone fractures in a population of postmenopausal women with self-reported hirsutism and/or oligomenorrhea in south Brazil [3]. Overall, 1057 participants were interviewed in a primary care basis in a cross-sectional study. Those women with a surrogate diagnosis of PCOS showed a non-significant trend towards an increased prevalence of all fragility fractures.

Fractures of the humerus (OR 2.6 (CI 1.2–5.4); $P = 0.015$) and the lower leg (OR 3.1 (CI 1.1–8.6); $P = 0.029$) were significantly increased even when corrected for several comorbidities, age, and BMI.

For this reason, it is intriguing whether data about the incidence of lower leg fractures in PCOS (before and after 30 years of age) would be available in the study of Yang et al. We believe that fractures of the ankle may be increased in women with PCOS.

Kind regards,

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