Primary ovarian insufficiency associated with increased risk of osteoporosis

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Estradiol, the major estrogen sex hormone in humans and a widely used medication. Credit: Public Domain

The loss of estrogen after menopause is associated with rapid bone loss. A new study compared the bone health outcomes in women with primary ovarian insufficiency (POI) and early menopause with women who experienced menopause at the standard age to confirm the association between POI and osteoporosis. Study results are published online today in *Menopause*, the journal of The North American Menopause Society (NAMS).

Osteoporosis is a skeletal condition characterized by low bone mass and deterioration of bone tissue that leads to fragility and an increased risk of fracture. The debilitating disease, which affects more women than men, is associated with significant morbidity and mortality when osteoporotic fractures occur, leading to an increased rate of institutionalization and risk for mortality.

Previous studies have suggested an association between osteoporosis and POI, which is the loss of ovarian function before age 40 years. This new study, however, is the first one done on a larger scale, with more than 12,000 participants. It confirms the findings of smaller studies that demonstrated an association between POI and early menopause (described as the loss of ovarian function between 40 and 45 years) on bone mineral density and osteoporosis. Specifically, women with POI were shown to have higher odds of osteoporosis and were more likely to be taking osteoporosis drugs.

The researchers also found that the use of hormone therapy reduced the odds for osteoporosis but that many women were not being adequately treated or even made aware of the benefits of hormones in reducing their risk. In addition, the study confirmed that women with POI were more likely to be obese, have decreased physical activity levels, and currently smoked.

It is estimated that 1% to 4% of women worldwide have POI, which means a significant number of women are at increased risk for osteoporosis.

Results are published in the article "The association between primary ovarian insufficiency and osteoporosis in the Canadian Longitudinal Study on Aging."

"This study highlights the elevated risk of osteoporosis for women experiencing menopause before the age of 40 years and underscores the importance of the use of hormone therapy at least until the natural age of menopause in order to reduce the significant morbidity and mortality associated with osteoporotic fractures," says Dr. Stephanie Faubion, NAMS medical director.

Provided by The North American Menopause Society