Long-term use of fluoxetine and multiple skeleton fractures

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Dear Editor:

We report a 33-year-old female patient treated with fluoxetine for 8 years for depression.

She had the first depression attack 14 years ago. She was treated with fluoxetine 20 mg/day and used that dose continuously for 5 years. After quitting the medication, her depression returned and fluoxetine was begun at 20 mg/day and increased to 40 mg/day and used at that dose for 3 months, then lowered to the original dose. At the end of 8 years of using fluoxetine 20 mg/day, three fractures occurred within a short interval. The first fracture appeared on the right radius and distal third of the ulna. After 8 months, a second fracture at the left distal third of the spinal cruris emerged. One and a half years later, a fragmented fracture was seen at the collum chirurgicum and tuberculum majus in the proximal third of the right humerus. The patient was operated on four times due to those fractures. At the time of the fractures, there were no biochemical abnormalities other than slight elevations in the levels of LH and FSH. The bone densitometry was within normal limits. A poor densitometry rating was found (−1.5) only for the corpus femoris. Based on that finding, the patient was considered to be in the initial stages of osteopenia. All of those fractures however could not be explained by this diagnosis.

Lerner [1] documented that there could be osteoporosis due to the administration of selective serotonin reuptake inhibitors (SSRIs) because serotonin might work as a signal

molecule in the brain and there are serotonin receptors on osteoblasts and osteoclasts. There would be a decrease in the bone mass when the serotonin gene transporter was left out of the circuit in gene knock-out studies. These findings reveal that osteoporosis may occur secondary to the use of SSRIs and can cause bone fractures.

Ziere et al. [2] reported that SSRIs and tricyclic antidepressants (TSAs) can cause fractures, especially in the bones of older patients, and fractures have appeared in the vertebrae of patients using SSRIs for long periods but not with TSAs.

In the presented case, the patient was relatively young and had fractures one after another.

It is also interesting that the fractures appeared in the eighth year of using an SSRI. This is in keeping with Ziere's report that the long-term use of SSRIs may provoke formation of fractures. The fractures due to the use of SSRIs occur without any change in the hormonal regulations in the metabolism of bones, and the deficiency in the bone mass cannot be caught with bone densitometry scans because the pathology is related to the loss of the function of serotonin as a signal molecule in the brain.

We propose that rather than continuing the use of SSRIs for more than 5 years, the medication might be shifted to different types of drugs such as MAOIs that are relatively benign to bone mass.

References

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