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AN INCREASE IN BONE STABILITY IN AN ARIPIPRAZOLE ADD-ON OR SWITCHING STUDY

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Introduction: Schizophrenia is a mental health disorder associated with high rates of osteoporosis. Studies have suggested antipsychotics as a major cause of accelerated decrease in bone mineral density.

Oestrogen deficiency contributes to osteoporosis and causes increased osteoclast numbers/osteoclastic activity. Prolactin suppresses hypothalamo-pituitary-ovarian axis activity, leading to decreased oestrogen concentrations.

Aripiprazole, an 'atypical' antipsychotic, is a partial agonist at dopamine D_2-receptors, while other atypical antipsychotics are antagonists at these receptors. Dopamine inhibits prolactin release via these receptors at the anterior pituitary. Aripiprazole has been found to decrease prolactin concentrations in chronic schizophrenics and may be protective against osteoporosis.

Quantitation of specific markers of osteoclastic (cross-linked N-telopeptide (NTX)) and osteoblastic activity (bone alkaline phosphatase (BAP)) can be correlated with bone resorption and bone formation, respectively.

Objectives: Exploring whether aripiprazole is effective in stabilising bone turnover.

Aims: Investigate changes in urinary markers of bone turnover.

Methods: We performed 52 week, open-label, intention-to-treat study, offering either a switch to aripiprazole or aripiprazole as add-on to initial antipsychotic medication.

Serial measurements of prolactin, testosterone, 17-β-oestradiol, serum BAP, albumin, urinary creatinine, and urinary NTX concentrations were taken between 0 and 52 weeks.

Results: At the end-point of study, versus the baseline, there were significant decreases in concentrations of urinary markers of bone resorption (P=0.002 for NTX) and bone formation (P=.026 for BAP). Additionally, a significant decrease in prolactin (P=0.004) and significant increase in 17-β-oestradiol concentrations (P=0.015) were found.

Conclusions: Our results show decreased overall bone turnover; and increased long-term bone stability in patients who changed medication.

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