

Thiazide diuretic as an antihypertensive agent for patients with osteoporosis

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Madam, Thiazide diuretics is a low cost and very effective anti-hypertensive drug. It blocks the Sodium-chloride Co-transporter in the distal convoluted tubule thereby decreasing blood volume and controlling hypertension. In a study, it was found that by using high dose Thiazide diuretic, risk of heart failure decreased by 83% and risk decreased by 42% in patients using low dose Thiazide diuretics.¹

My letter is regarding recent publications that express the protective effect of Thiazide diuretic in patients with osteoporosis. In one study, it was found that those osteoporotic patients who took thiazide diuretic had 0.87 times the risk of having fractures compared to those who did not take the drug.² Proposed mechanism through which Thiazide diuretic decreases the risk of having fracture is by not only increasing calcium reabsorption by the kidney but also by inhibiting sodium-chloride cotransport in osteoblast thus increasing calcium levels in the bones.³

As we know, hypertension is one of the major causes of cardiovascular diseases worldwide. In Pakistan, 33% of adults above 45 years of age have hypertensive disease.⁴ By controlling hypertension, we can prevent the patients from having end organ damage and it was seen that just by decreasing 5 mmHg systolic we can decrease overall mortality by 7%.⁴ Hypertension is usually managed by diet, exercise and anti-hypertensive medications. In a study in Pakistan, it was found that 34% of the physicians prescribe ACE-I, another 34% use Beta Blockers, 17% use Diuretics, and 11% use Calcium channel blockers to manage Stage-1 hypertension.⁴

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Osteoporosis is also a very common and a serious condition that lead to decrease in the bone mineral density thus increasing the risk of having fractures. In Peshawar, it was found that 35.6% women were osteopenic.⁵

The fact that both these diseases are associated with increasing age, Thiazide can be found effective for the elderly population. Though, Thiazide diuretic is not primarily used to treat osteoporosis, further researches should be conducted to weigh the risk and benefits of Thiazide diuretic use among hypertensive patients with osteoporosis, and to compare Thiazide with other bone mineralizing agents thus one medication can be used for patients with hypertension and osteoporosis which would also help in increasing the compliance rate.

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