

Think of Salt in Preventing Falls in the Geriatric Population

[Letter] Perm J 2014 Winter;18(1):e121

<http://dx.doi.org/10.7812/TPP/13-163>

Re: Lee A, Lee KW, Khang P. Preventing Falls in the Geriatric Population. *Perm J* 2013 Fall;17(4):37-9. DOI: <http://dx.doi.org/10.7812/TPP/12-119>.

Dear Editor,

The review by Aimee Lee, MD, and associates mentions various risks for falls in the elderly population. However, an important point is missing. Emerging literature shows that chronic hyponatremia increases the adjusted odds ratio for falls and is now recognized as an important factor for increased falls and fractures in the elderly.^{1,2} This is true even for mild hyponatremia, which is sometimes considered to be “asymptomatic” with serum sodium levels of 130 meq/L to 134 meq/L. The mechanism proposed includes mild impairment in cognitive abilities leading to unsteadiness in gait. At least in some cases, hyponatremia may contribute to osteoporosis and increased bone fragility by causing higher rate of bone resorption to mobilize sodium.

Earlier reports had shown that mild hyponatremia is associated with falls, but the first prospective study came from Rotterdam. In this study of 5208 patients, subjects with mild hyponatremia had more recent falls (23.8% vs 16.4%, $p < 0.001$).²

Adjustments for disability index and diuretics, along with other factors, did not modify the risks.

Also, hyponatremia has been shown to be a novel risk factor for hip fracture in the elderly.^{1,2} Even without osteoporosis, even mild serum sodium levels of < 135 meq/L have been associated with fracture occurrence.³ In the Rotterdam study, hyponatremia was not associated with lower bone mineral density but was associated with increased risk of incident nonvertebral fractures (hazard ratio = 1.39) independent of comorbidities and diuretics.²

Hyponatremia can cause more attention deficit than a serum alcohol level of 0.6 g/L.⁴ Even mild hyponatremia can be a cause of major morbidity and mortality in elderly patients.² Physicians should look for hyponatremia during assessment of new falls as well as check it on an intermittent basis for elderly patients who may be at risk for future falls. Mild hyponatremia merits new well-deserved attention in the elderly population. ♦

Talha H Imam, MD
Nephrology, Fontana Medical
Center, Fontana, CA

References

1. Ayus JC, Negri AL, Kalantar-Zadeh K, Moritz ML. Is chronic hyponatremia a novel risk factor for hip fracture in the elderly? *Nephrol Dial Transplant* 2012 Oct;27(10):3725-31. DOI: <http://dx.doi.org/10.1093/ndt/gfs412>.
2. Hoorn EJ, Rivadeneira F, van Meurs JB, et al. Mild hyponatremia as a risk factor for fractures: the Rotterdam Study. *J Bone Miner Res* 2011 Aug;26(8):1822-8. DOI: <http://dx.doi.org/10.1002/jbmr.380>.
3. Kinsella S, Moran S, Sullivan MO, Molloy MG, Eustace JA. Hyponatremia independent of osteoporosis is associated with fracture occurrence. *Clin J Am Soc Nephrol* 2010 Feb;5(2):275-80. DOI: <http://dx.doi.org/10.2215/CJN.06120809>.
4. Renneboog B, Musch W, Vandemergel X, Manto MU, Decaux G. Mild chronic hyponatremia is associated with falls, unsteadiness, and attention deficits. *Am J Med* 2006 Jan;119(1):71.e1-8. DOI: <http://dx.doi.org/10.1016/j.amjmed.2005.09.026>.