# Tolvaptan should be used very carefully in very elderly patients

To the Editor,

We were very interested to read the article entitled 'The clinical utility of early use of tolvaptan in very elderly patients with acute decompensated heart failure' by Niikura et al. (1) recently published in the Anatol J Cardiol 2017; 18: 206-12 and the editorial comment entitled 'Tolvaptan in the very elderly with acute decompensated heart failure- a therapeutic option worth of consideration' by Ndrepepa (2) in the same issue, which evaluated the safety and efficacy of tolvaptan, a selective vasopressin V2 receptor antagonist, in very elderly patients.

Tolvaptan's efficacy has been evaluated in various trials for the treatment of congestive heart failure (HF) (3). In these trials, while improving many signs and symptoms of HF, it did not reduce long-term mortality or HF-related morbidity. Because of its pure water excretion, without influencing renal function and electrolyte balance, it has been used for many years, especially in the treatment of hypervolemic HF patients. A single-center trial conducted by Sağ et al. (4) assessed the efficacy and safety of tolvaptan in hyponatremic and hypervolemic HF patients in Turkey, and found tolvaptan to be very effective. In all of these trials, hypervolemia is the main cause of congestion, especially in chronic HF. But in acute decompensated HF patients, vasoconstriction caused by sympathetic hyperactivity triggered by an underlying etiological factor, such as COPD exacerbation or infection, is also an important pathophysiologic mechanism, as well as volume overload. So vasodilator agent use may be as important as water extraction from body. In this regard, the 2016 European Society of Cardiology HF guidelines recommend avoiding diuretic use in patients with acute HF and signs of hypoperfusion. Although the authors indicated that they excluded patients with hypovolemia, we do not know the subgroups of etiological factors causing acute decompensated HF. Vasoconstriction may predominate hypervolemia by increasing blood pressure and causing pulmonary congestion. Especially in very elderly patients, as in this trial, daily water consumption can be lower than in the normal population. Zizza et al. (5) reported that total water consumption for the middle-old (75-84 years) and oldest-old (>85 years) age groups was significantly lower than in the young-old (65-75 years) age group.

So we think that while treating congestive symptoms and evaluating the patients' volume status, understanding the underlying cause of acute HF is very important. Accurate treatments are always important for the short- and long-term prognosis, especially in frail patient groups like the very elderly.

However, we think that this trial was very courageous and instructive for the medical field. The sample size was small, but we believe that larger studies will support these results. We thank the authors for this valuable contribution.

**Fatih Kahraman, Ahmet Seyda Yılmaz[1]**
**Department of Cardiology, Düzce Atatürk State Hospital; Düzce-*Turkey***
**[1]Department of Cardiology, Rize State Hospital; Rize-*Turkey***

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**Address for Correspondence:** Dr. Fatih Kahraman
Düzce Atatürk Devlet Hastanesi
Kardiyoloji Anabilim Dalı
Kiremit ocağı Mah. Eski Bağdat Cad.
No:32/4, Düzce-*Türkiye*
Phone: +90 544 276 46 16
E-mail: drfkahraman@gmail.com
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## Author`s Reply

To the Editor,

We would like to thank Dr. Kahraman and Dr. Yılmaz for their interest in our recently published paper (1). We agree with your indication that a very elderly patient should use tolvaptan more carefully since acute decompensated heart failure (ADHF) is usually caused by multiple mechanisms. As mentioned by Dr. Kahraman and Dr. Yılmaz, it may be somewhat difficult to completely exclude the possibility that vasoconstriction caused by sympathetic hyperactivity is involved in the development of ADHF. However, it could be identified in patients with hypovolemia in a clinical scenario (2). In our study, 6% of the patients demonstrated clinical scenario 3. We think that in that case hypotension can be avoided by using tolvaptan at a low dose of 3.75 mg or 7.5 mg.

The timing of initiating tolvaptan is also important. We never