

Awareness of Drug–Drug Interaction in Elderly Patients with Osteoarthritis and Depression [Letter]

Ling-Ling Zhu¹, Quan Zhou²

¹Geriatric VIP Ward, Division of Nursing, The Second Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, 310009, Zhejiang Province, People's Republic of China; ²Department of Pharmacy, The Second Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, 310009, Zhejiang Province, People's Republic of China

Correspondence: Quan Zhou, Department of Pharmacy, The Second Affiliated Hospital, School of Medicine, Zhejiang University, Hangzhou, 310009, Zhejiang Province, People's Republic of China, Tel +86-571-8778-4615, Email zhouquan142602@zju.edu.cn

Dear editor

We read with great interest the study by Wang et al,¹ which direct health care providers' attention to the co-occurrence of depression and osteoarthritis (OA). We especially appreciate the viewpoint that clinicians should implement an individualized and comprehensive treatment plan for osteoarthritic patients with depression. However, we found one point worthy of discussion and we would like to share our perspectives in the following paragraphs.

The following serotonergic antidepressants are commonly prescribed as a treatment for neuropathic pain or depression in orthopedic outpatient clinics and pain management clinics: tricyclic antidepressants (eg, amitriptyline), selective serotonin reuptake inhibitors (eg, citalopram, escitalopram, fluoxetine, paroxetine, sertraline, fluvoxamine), serotonin and norepinephrine reuptake inhibitors (eg, duloxetine and venlafaxine). However, clinicians should pay attention to the potential of drug–drug interaction (DDI) between antidepressant and analgesic in OA patients. Tramadol, a weak opioid, is often prescribed to treat pain in OA. There is a warning associated with tramadol and its concomitant use with all serotonergic antidepressants due to the concern for a DDI resulting in serotonin syndrome (SS).^{2,3} Tramadol is a class II psychotropic drug that must be prescribed exclusively, therefore its DDI is less likely to be identified by pharmacists if there is no mechanism for reviewing the appropriateness of all currently used medications. Buprenorphine transdermal patch and combination product of acetaminophen and oxycodone, also class II psychotropic drugs in China, are not prone to serotonin related DDIs so that they are alternatives to tramadol. Also, paroxetine, a potent cytochrome P450 2D6 inhibitor, could significantly inhibit the metabolism of tramadol to its active metabolite M1 and reduce the hypoalgesic effect of tramadol.⁴ Oxycodone is not prone to inhibition of CYP2D6 alone, thus its combination product (acetaminophen/oxycodone) could be used concomitantly with paroxetine.⁵

Wang et al addressed the relationship between depression and OA, and their work is very enlightening and beneficial for international community. Their call for interdisciplinary collaboration to improve patients' quality of life, along with our perspectives may bring a more detailed guide in personalized therapy of osteoarthritis comorbid with depression.

Disclosure

The authors report no conflicts of interest in this communication.

References

1. Wang ST, Ni GX. Depression in osteoarthritis: current understanding. *Neuropsychiatr Dis Treat*. 2022;18:375–389. doi:10.2147/NDT.S346183
2. Toupin April K, Bisillon J, Welch V, et al. Tramadol for osteoarthritis. *Cochrane Database Syst Rev*. 2019;5(5):CD005522. doi:10.1002/14651858.CD005522.pub3

3. Beakley BD, Kaye AM, Kaye AD. Tramadol, pharmacology, side effects, and serotonin syndrome: a review. *Pain Physician*. 2015;18(4):395–400.
4. Laugesen S, Enggaard TP, Pedersen RS, Sindrup SH, Brøsen K. Paroxetine, a cytochrome P450 2D6 inhibitor, diminishes the stereoselective O-demethylation and reduces the hypoalgesic effect of tramadol. *Clin Pharmacol Ther*. 2005;77(4):312–323. doi:10.1016/j.clpt.2004.11.002
5. Feng XQ, Zhu LL, Zhou Q. Opioid analgesics-related pharmacokinetic drug interactions: from the perspectives of evidence based on randomized controlled trials and clinical risk management. *J Pain Res*. 2017;10:1225–1239. doi:10.2147/JPR.S138698

Dove Medical Press encourages responsible, free and frank academic debate. The content of the Neuropsychiatric Disease and Treatment 'letters to the editor' section does not necessarily represent the views of Dove Medical Press, its officers, agents, employees, related entities or the Neuropsychiatric Disease and Treatment editors. While all reasonable steps have been taken to confirm the content of each letter, Dove Medical Press accepts no liability in respect of the content of any letter, nor is it responsible for the content and accuracy of any letter to the editor.

Neuropsychiatric Disease and Treatment

Dovepress

Publish your work in this journal

Neuropsychiatric Disease and Treatment is an international, peer-reviewed journal of clinical therapeutics and pharmacology focusing on concise rapid reporting of clinical or pre-clinical studies on a range of neuropsychiatric and neurological disorders. This journal is indexed on PubMed Central, the 'PsycINFO' database and CAS, and is the official journal of The International Neuropsychiatric Association (INA). The manuscript management system is completely online and includes a very quick and fair peer-review system, which is all easy to use. Visit <http://www.dovepress.com/testimonials.php> to read real quotes from published authors.

Submit your manuscript here: <https://www.dovepress.com/neuropsychiatric-disease-and-treatment-journal>

<https://doi.org/10.2147/NDT.S364573>