Four Cases of Chronic Pain That Improved Dramatically Following Low-Dose Aripiprazole Administration

To the Editor: The role played by the brain's dopamine system in pain control has garnered attention in recent years.[1] Herein, we report 4 cases of long-term chronic pain (pain disorder [*DSM-IV-TR*]) that improved dramatically following administration of a low dose of aripiprazole, a partial dopamine agonist. None of these 4 patients satisfied the *DSM-IV-TR* diagnostic criteria for schizophrenia.

Case 1. Mr A, a 42-year-old man, had a chief complaint of chronic head and neck pain that had persisted for 10 years and was refractory to administration of morphine 70 mg/d. He visited our department in December 2008 and was diagnosed with pain disorder and pervasive developmental disorder. Although fluvoxamine treatment was started, with the dosage gradually increased to 200 mg/d, it was ineffective and the pain exacerbated. Upon switching to aripiprazole 3 mg/d, the pain improved dramatically, and the patient was able to discontinue morphine. After increasing the dose to 6 mg/d, the patient became able to go fishing for the first time in a few years, and his motivation increased.

Case 2. Mr B, a 35-year-old man, had chronic back and leg pain that had persisted for 15 years and particularly worsened following sexual intercourse. He had visited over 20 medical institutions in the past and had not responded to antidepressants. He visited our department in March 2009 and was diagnosed with pain disorder. Pain disappeared after initiation of aripiprazole 2 mg/d, and the patient's passion for his work in computer software development improved.

As aripiprazole was effective in the treatment of pain disorder in Cases 1 and 2, we subsequently also used it for Cases 3 and 4, and it was effective. Below are concise descriptions of Cases 3 and 4.

Case 3. Ms C, an 83-year-old woman, had developed Parkinson's disease and back and leg pain (pain disorder) 4 years before. She visited our department in August 2009. Pain improved following administration of aripiprazole 3 mg/d, and the patient began going out rather than staying home as she had been, and her level of activity improved.

Case 4. Ms D, a 68-year-old woman, had developed pain at the top of the head (pain disorder) a year before she visited our department in October 2009. Pain disappeared after we added aripiprazole 2 mg/d to sertraline 100 mg/d, and the patient's motivation toward housework improved.

These 4 patients were characterized by reduction of pain and improved motivation following low-dose aripiprazole administration. Dopamine plays a role in pain processing via μ opioids.[1] Dopamine-related diseases often exhibit pain-related symptoms. For example, pain is a common complaint among patients with Parkinson's disease,[2] and those with schizophrenia are known to have a reduced pain sensitivity.[3] In other words, the degree of dopamine system activation is inversely proportional to the degree of pain. These 4 cases suggest that aripiprazole, a dopamine system stabilizer, may be a therapeutic option for chronic pain.

REFERENCES

1. Leknes S, Tracey I. A common neurobiology for pain and pleasure. *Nat Rev Neurosci*. 2008;9(4):314–320.
2. Tinazzi M, Del Vesco C, Fincati E, et al. Pain and motor complications in Parkinson's disease. *J Neurol Neurosurg Psychiatry*. 2006;77(7):822–825.
3. Potvin S, Grignon S, Marchand S. Human evidence of a supra-spinal modulating role of dopamine on pain perception. *Synapse*. 2009;63(5):390–402.

Satoshi Kasahara, MD
namahagenator@gmail.com
Yasuto Kunii, MD
Hirobumi Mashiko, MD, PhD
Koji Otani, MD, PhD
Shin-ichi Konno, MD, PhD
Shin-ichi Niwa, MD, PhD

Author affiliations: Department of Neuropsychiatry (Drs Kasahara, Kunii, Mashiko, and Niwa) and Department of Orthopaedic Surgery (Drs Otani and Konno), Fukushima Medical University School of Medicine, Fukushima City, Japan.
Potential conflicts of interest: None reported.
Funding/support: None reported.
Published online: April 21, 2011 (doi:10.4088/PCC.10l01078).
Prim Care Companion CNS Disord 2011;13(2):e1