Resolution of Pathological Skin Picking With Fluvoxamine in a 74-Year-Old Dementia Patient

To the Editor: Fluvoxamine has not been previously reported to cause amelioration of skin picking in dementia patients. A 74-year-old patient with a diagnosis of mixed dementia comorbid with depression and pathological skin picking is presented here. Her relentless skin picking decreased after the commencement of fluvoxamine 25 mg twice a day and eventually resolved with 75 mg twice a day.

Case report. Ms A is a white woman initially seen at age 71 years in March 2010. She presented with depressed, irritable mood; sleep disturbance; and gradual, progressive cognitive decline that began 7 years previously. Ms A's clinical symptoms were consistent with the *DSM-IV* criteria for dementia. For 5 or 6 months, she was picking the skin of her hands, scalp, chest, and arms and caused sores on her face with a tweezer. Multiple excoriated, crusted papules and plaques could be seen on her hands, upper chest, back, and scalp. The magnetic resonance imaging scan revealed a small focus of acute infarct in the left basal ganglia within putamen, in addition to small vessel disease, central and cortical atrophy, and ventriculomegaly. Her Mini-Mental State Examination[1] (MMSE) score was 18/30.

She had been taking sertraline 50 mg, and its dose was increased to 75 mg. At the 2-week follow-up, although her mood had improved, she continued to pick her skin and eat the scabs. Later, family members reported that the skin picking had started after the commencement of sertraline. Subsequently, sertraline was discontinued and memantine was initiated in April 2010, followed by unsuccessful trials of escitalopram (caused dystonia) and duloxetine (increased skin picking).

Ms A returned to my care in July 2012 at age 74 years; the dementia had progressed, and her MMSE score was 8/30. Per her history, venlafaxine, quetiapine, donepezil, and olanzapine were not helpful or poorly tolerated. She was taking memantine 5 mg twice daily, and sertraline had been resumed as it was helpful for her depression. Memantine was gradually increased to 10 mg twice daily, and fluoxetine replaced sertraline given that it had not historically helped with skin picking. When fluoxetine was increased to 30 mg, Ms A became agitated with auditory and visual hallucinations. Subsequently, memantine was decreased to 5 mg twice a day, and fluoxetine was replaced with fluvoxamine 25 mg twice a day. Her skin picking decreased with fluvoxamine 25 mg twice a day, significantly ameliorated with 50 mg twice daily, and eventually resolved with 75 mg twice a day. The dosage of fluvoxamine was subsequently increased to help with agitation, although skin picking had resolved.

Pathological skin picking has been incorporated in the obsessive-compulsive and related disorders in the *DSM-5*. It is intentional, repetitive scratching or picking of normal skin or skin with minor blemishes, scabs, or insect bites that causes noticeable injury and functional impairment. Erasmus Wilson (1875) coined the term *neurotic excoriations* to describe excessive picking behaviors in neurotic patients.[2] Picking occurs in 2% of patients presenting at dermatology clinics[3] and is generally observed to occur in middle-aged women (average age at onset between 30 and 50 years).[4] The itch-scratch cycle can lead to the development of a chronic dermatitis in some individuals.[5] Selective serotonin reuptake inhibitors (SSRIs), doxepin, clomipramine, naltrexone, olanzapine, pimozide,[4,6,7] benzodiazepines, and amitriptyline[5] have been found to be effective.

Similar to other SSRIs, fluvoxamine binds to the presynaptic serotonin transporter (SERT) and subsequently increases the amount of serotonin in the synaptic cleft. Although it is unclear how this increase results in efficacy, it has been hypothesized to involve downstream effects, including serotonin-1A (5-HT_{1A}) autoreceptor desensitization,[8] increased sensitivity of dopamine-2 (D_2)–like receptors in the nucleus accumbens,[9] enhanced neurogenesis,[10] and individual pharmacogenomic factors involving *SERT* gene variants.[11] Additionally, fluvoxamine has been shown to have high occupancy of sigma-1 receptors in the human brain, and evidence suggests that fluvoxamine's affinity for the sigma-1 receptor exceeds that of all other SSRIs.[12] The endoplasmic reticulum protein sigma-1 receptors are implicated in the modulation of various neurotransmitter systems, have a high affinity for diverse classes of psychotropic drugs, and have important roles in the pathophysiology of neuropsychiatric diseases such as schizophrenia, depression, anxiety disorders, and dementia.[13] Fluvoxamine can be a promising medication in the treatment of pathological skin picking in dementia patients.

References

1. Folstein MF, Folstein SE, McHugh PR. "Mini-mental state": a practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res*. 1975;12(3):189–198.
2. Odlaug BL, Grant JE. Pathologic skin picking. In: Grant JE, Stein DJ, Woods DW, et al, eds. *Trichotillomania, Skin Picking, and Other Body-Focused Repetitive Behaviors*. Washington, DC: American Psychiatric Publishing, Inc; 2012:21–41.
3. Griesemer RD, Nadelson T. Emotional aspects of cutaneous disease. In: Fitzpatrick TB, Eisen HZ, Wolff K, et al, eds. *Dermatology in General Medicine*. New York, NY: McGraw-Hill; 1979:1353–1363.
4. Gupta MA, Gupta AK, Haberman HF. Neurotic excoriations: a review and some new perspectives. *Compr Psychiatry*. 1986;27(4):381–386.
5. Gupta MA, Gupta AK, Haberman HF. The self-inflicted dermatoses: a critical review. *Gen Hosp Psychiatry*. 1987;9(1):45–52.
6. Arnold LM, Auchenbach MB, McElroy SL. Psychogenic excoriation: clinical features, proposed diagnostic criteria, epidemiology and approaches to treatment. *CNS Drugs*. 2001;15(5):351–359.
7. Koblenzer CS, Gupta R. Neurotic excoriations and dermatitis artefacta. *Semin Cutan Med Surg*. 2013;32(2):95–100.
8. Stephen SM. Mechanism of action of serotonin selective reuptake inhibitors: serotonin receptors and pathways mediate therapeutic effects and side effects. *J Affect Disord*. 1998;51(3):215–235.
9. Gershon AA, Vishne T, Grunhaus L. Dopamine D_2–like receptors and the antidepressant response. *Biol Psychiatry*. 2007;61(2):145–153.
10. Dranovsky A, Hen R. Hippocampal neurogenesis: regulation by stress and antidepressants. *Biol Psychiatry*. 2006;59(12):1136–1143.
11. Mancama D, Kerwin RW. Role of pharmacogenomics in individualising treatment with SSRIs. *CNS Drugs*. 2003;17(3):143–151.
12. Ishikawa M, Ishiwata K, Ishii K, et al. High occupancy of sigma-1 receptors in the human brain after single oral administration of fluvoxamine: a positron emission tomography study using [11C]SA4503. *Biol Psychiatry*. 2007;62(8):878–883.
13. Ishikawa M, Hashimoto K. The role of sigma-1 receptors in the pathophysiology of neuropsychiatric diseases. *J Receptor Ligand Channel Res*. 2010;3:25–36.

Zeba Hasan Hafeez, MD, MCPS[a]
zebahafeez@hotmail.com

[a]Department of Psychiatry, Kaiser Permanente, Santa Rosa, California

Potential conflicts of interest: None reported.

Funding/support: None reported.

Published online: January 28, 2016.

Prim Care Companion CNS Disord 2016;18(1):doi:10.4088/PCC.15l01844