

Letters to the Editor

Skin Picking Heraldizing Parkinson's Disease

To the Editor: Skin picking has been reported in Parkinson's disease (PD) as dermatillomania, an impulsive behavior,¹ or as a delusion of parasitosis. Skin picking is commonly linked to dopamine agonist treatment of PD² and leads to tissue damage and, subsequently, medical complications and psychological distress. Reports of such disorders presenting before treatment with dopamine agonists are lacking. We present the cases of four patients who, with skin picking as the prodromal phase of idiopathic PD, were diagnosed using the U.K. Parkinson's Disease Society Brain Bank clinical diagnostic criteria by a single neurologist (A.H.E.). The patients provided informed consent before being included in the study.

Case Reports

We detail two illustrative case reports below and summarize all four cases in Table 1.

Case 1. Mrs. AA was a 69-year-old married woman with a 3-year history of depressive disorder. Her depression partially responded to a number of selective serotonin reuptake inhibitor (SSRI) antidepressants. Mrs. AA impulsively pinched her skin and scratched her neck, arms, and chest, which progressed to infections of the skin lesions at the same time she experienced depression. She reported no delusion of infestation but described itching and relief at repeatedly picking at the resultant scabs. Mrs. AA scratched so severely that there was hardly any intact skin on both forearms and there were abrasions on her upper chest and around her neck.

On examination, Mrs. AA was noted to have a shuffling gait with no arm swing, moderate symmetrical bradykinesia of handgrips, finger taps, and rapid alternating movements and moderate rigidity in muscle tone. She was depressed and appeared sad. A cognitive assessment using the Neuropsychiatry Unit Cognitive Assessment Instrument revealed that the patient had difficulties in attentional function, speed of processing, and executive functioning. A cerebral MRI scan showed white matter changes consistent with chronic small-vessel ischemia.

A diagnosis of PD was made, and the patient was given L-dopa/carbidopa 100 mg/25 mg t.i.d., which led to substantial improvement in bradykinesia, gait, muscle tone, motivation, and mood. Unfortunately, the patient's skin-picking behavior persisted.

Case 2. Mr. BB was a 68-year-old married man, who was previously functioning highly in his professional career. Shortly after his retirement, the patient presented with a 2-year history of extreme generalized anxiety and 12 months of distractibility, poor concentration, amotivation, and insomnia. He reported having a right-hand tremor for approximately 10 months before receiving a diagnosis of PD. The patient had a 12-month history of devastating impulsive scratching in response to a generalized itch, leading to skin ulcerations and open wounds on his face, neck, trunk, arms, and legs. On examination, Mr. BB had a hypomimic appearance and anosmia (scoring 9 of 12 on the "Sniffin' Sticks" smell discrimination test). During the interview, the patient scratched visibly ulcerated skin. His psychiatric treatments included escitalopram (up to 20 mg daily), venlafaxine (up to 450 mg daily), and quetiapine (up to 400 mg daily), with no effect on his psychiatric state.

Results of the patient's neurological examination revealed a stooped posture, parkinsonian tremor on the right, mild to moderate rigidity, moderate asymmetrical bradykinesia, and postural instability. Mr. BB had a modest response to an L-dopa challenge with 200/50 mg of L-dopa/carbidopa and a decrease in his Unified Parkinson's Disease Rating Scale score from 26 to 19, but this had no effect on his psychiatric symptoms. The patient subsequently had an excellent response to ECT, with resolution of his anxiety and skin-picking behavior and mild improvement in his motor parkinsonism.

Discussion

In our study of four individuals with skin-picking behavior and PD, all of the patients had a diagnosis of an affective illness preceding the diagnosis of PD. In these patients, skin-picking behavior emerged after the development of affective symptoms and before the diagnosis or treatment of PD. The skin-picking behavior was most severe when the affective illness was severe and often improved after treatment of the affective illness.

To our knowledge, the association of skin-picking behavior and depression as a prodrome to PD has not been previously reported and raises the interesting question of how a hypodopaminergic state would be associated with an impulse control disorder. Dopamine hypofunction within the frontostriatal and mesolimbic dopaminergic systems has been reported to underpin depressive symptoms and apathy in PD and has been associated with addiction behaviors.

TABLE 1. Summary of Four Patients Manifesting Skin-Picking Behavior Before Initiation of Treatment for PD^a

Patient ID	Gender	Duration of PD	Age at PD Diagnosis (Years)	Type and Duration of Affective Disorder Before PD	Duration of Skin-Picking Behavior Before PD Diagnosis	Psychotropic Drugs at Onset of Skin-Picking Behavior	Clinical Features of Skin Picking
Case 1	Female	Newly diagnosed PD	69	Bipolar affective disorder, 3 years	3 years	SSRIs	Impulsive skin picking and scratching to relieve itchiness
Case 2	Male	Newly diagnosed PD	68	Mixed anxiety and depression, 2 years	1 year	Citalopram, quetiapine, L-dopa plus benserazide, L-dopa/carbidopa/entacapone	Impulsive skin scratching to relieve itchiness
Case 3	Female	7 years	70	Major depressive disorder, 22 years	3 years	Various antidepressants	Impulsive skin scratching to relieve itchiness
Case 4	Male	3.5 years	77	Bipolar affective disorder, 30 years	4 years	Nil	Skin picking to relieve itchiness; itchiness associated with delusional interpretation

^a PD, Parkinson's disease; SSRI, selective serotonin reuptake inhibitor; XR, extended release.

Intermittent and repeated skin picking to relieve tension from itching may “sensitize” the reward system and lead to escalation in reward seeking and repeated stimulation of dopamine release, resulting in restoration of a state of dopamine deficiency as in idiopathic PD.³ In fact, this compensatory increase in dopaminergic activities in the frontal lobes and anterior cingulate gyrus has been demonstrated in a positron emission tomography study of early PD.⁴ Skin picking and mood disorders may share a common neurobiological and behavioral mechanism. Finally, SSRI treatment has occasionally been reported to induce or worsen the skin-picking behavior in patients with obsessive-compulsive disorder.⁵

From a clinical perspective, these cases highlight that late-onset skin-picking behavior together with a mood disorder may be a prodrome to PD and should alert the clinician to the possibility of PD. From a therapeutic perspective, two important observations are that a) treatment of the mood disorder is more likely to lead to resolution of the skin-picking behavior than are dopamine agonists and b) dopamine agonists did not worsen the skin-picking behavior.

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