The mysterious foreign accent

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While treating Ms. D for a suspected psychotic disorder, you learn she has developed a foreign accent. What could be the cause of this unusual symptom?

CASE Disruptive and withdrawn

Police bring Ms. D, age 33, to our psychiatric facility because of violent behavior at her group home. When confronted for alledgedly stealing, she became upset, fought with a housemate, and spat. Six months before coming to our facility she was admitted to a private hospital for psychotic disorder, not otherwise specified (NOS) where she was mute, refused all food and medications, lay in her room, and covered her face with a sheet when someone tried to talk to her.

Ms. D denies having depressive symptoms, sleep disturbance, racing thoughts, thoughts of hurting herself or others, or auditory or visual hallucinations. She complains of poor appetite. Ms. D denies a history of mental illness and says she is not taking any medication. She is upset about being hospitalized and says she will not cooperate with treatment. We cannot obtain her complete psychiatric history but available records indicate that she has 1 previous psychiatric hospitalization for psychotic disorder NOS, and has received trials of haloperidol, lorazepam, diphenhydramine, escitalopram, ziprasidone, and benztropine. Her records do not indicate the dosages of these medications or how she responded to pharmacotherapy.

During her mental status exam, Ms. D is well dressed, covers her hair with a scarf, has no unusual body movements, and responds to questions appropriately. She describes her mood as "okay" but appears upset and anxious about being in the hospital. She exhibits no overt psychotic symptoms and does not appear to be responding to auditory hallucinations or having delusional thoughts. Her cognitive function is intact and her intelligence is judged to be average with impaired insight and judgment. However, she speaks with a distinct accent that sounds Jamaican; otherwise, her speech is articulate with normal rate and tone. When we ask about her accent, Ms. D, who is African American, does not disclose her ethnicity and seems to be unaware of her accent. We did not question the authenticity of her accent until after we obtained collateral information from her family.

What is your differential diagnosis?

a) bipolar disorder NOS
b) substance-induced psychosis
c) brief psychotic disorder
d) psychotic disorder NOS
e) delusional disorder

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How would you handle this case?

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Clinical Point

Foreign accent syndrome can result from lesions in the brain areas involved in speech production

The authors' observations

Based on the available information, we make a provisional diagnosis of psychotic disorder NOS and Ms. D is admitted involuntarily because of concerns about her safety. She is reluctant to accept any treatment and receives an involuntary probate commitment for 90 days. At admission, Ms. D is evasive, guarded, secretive, and at times hostile. Her physical examination reveals no signs or symptoms of focal neurologic deficits. Laboratory testing, including urine toxicology, is unremarkable. She refuses an MRI. Later testing reveals a critical ammonia level of 143 µg/dL, warranting an axis III diagnosis of asymptomatic hyperammonemia.

HISTORY Paranoia and delusions

Ms. D says she was born and raised in a southern state. She reports that she was born to an Egyptian mother who died during childbirth; her father, who is white, was an ambassador stationed abroad. Ms. D attended school until the 11th grade and was married at age 19 to a Secret Service agent. She says she has a son who was kidnapped by her husband's enemies, rescued by paying ransom, and currently lives with his grandfather. Ms. D is paranoid and fears that her life is in danger. She also believes that she has gluten sensitivity that could discolor and damage her hair, which is why she always keeps a scarf on her head for protection.

Through an Internet search, we find articles about Ms. D's son's kidnapping. The 7-year-old had been missing for weeks when police found him with his mother in safe condition in another state, after Ms. D called her mother to ask for money and a place to stay. The child was taken from Ms. D's custody because of concerns for his safety. We also find Ms. D's mother. Although Ms. D insists her mother is deceased, after some persuasion, she signs a release allowing us to talk to her.

Ms. D's mother reports that her daughter's psychiatric problems began when she was pregnant. At the time Ms. D did not have a foreign accent. She had started to "talk funny" when her psychiatric symptoms emerged after she married and became pregnant.

How can one acquire a foreign accent?

a) becoming immersed in a foreign language
b) psychiatric illness
c) neurologic illness
d) all the above

Foreign accent syndrome

A foreign accent can be acquired by normal phenomena, such as being immersed in a foreign language, or a pathological process,[1] which can include psychiatric (functional) or neurologic illness (organic causes). Foreign accent syndrome (FAS) is a rare speech disorder characterized by the appearance of a new accent, different from the speaker's native language, that is perceived as foreign by the listener and in most cases also by the speaker.[2] Usually an FAS patient has had no exposure to the accent, although in some cases an old accent has re-emerged.[3,4]

FAS can result from lesions in brain areas involved in speech production, including precentral gyrus, premotor mid-frontal gyrus, left subcortical prerolandic gyrus, postrolandic gyri, and left parietal area.[4] Most FAS cases are secondary to a structural lesion in the brain caused by stroke, traumatic brain injury, cerebral hemorrhage, or multiple sclerosis.[2] There are a few cases in the literature of acquired foreign accent with psychogenic etiology in patients with schizophrenia and bipolar disorder with psychotic features.[5]

TREATMENT Combination therapy

Based on Ms. D's unstable mood, irritability, delusional beliefs, and paranoid ideas, we start divalproex, 500 mg/d titrated to 1,750 mg/d,

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and risperidone, 3 mg in the morning and 4 mg at bedtime.

The unit psychologist evaluates Ms. D and provides individual psychotherapy, which is mainly supportive and psychoeducational. Ms. D gradually becomes cooperative and friendly. She is not willing to talk about her accent or its origin; however, as her psychiatric symptoms improve, her accent gradually diminishes. The accent never completely resolves, but reduces until it is barely noticeable.

The authors' observations

Ms. D's foreign accent was more prominent when she displayed positive psychotic symptoms, such as delusions and disorganized thinking, and gradually disappeared as her psychotic symptoms improved. Ms. D's case was peculiar because her accent was 1 of the first symptoms before her psychosis fully manifested.

How are FAS and psychosis linked?

Language dysfunction in schizophrenia is common and characterized by derailment and disorganization. Severity of language dysfunction in schizophrenia is directly proportional to overall disease severity.[6,7] Various hypotheses have suggested the origin of FAS. In patients with FAS secondary to a neurologic disorder, a lesion usually is found in the dominant brain hemisphere, but the cause is not clear in patients with psychosis who have normal MRI findings. One hypothesis by Reeves et al links development of FAS to the functional disconnection between the left dorsolateral prefrontal cortex (DLPFC) and the superior temporal gyrus (STG) during active psychosis.[5] In normal speech production, electric impulses originate in the DLPFC and are transmitted to STG in Wernicke's area. From there, information goes to Broca's area, which activates the primary motor cortex to pronounce words. In healthy individuals, word generation activates the DLPFC and causes deactivation

of the bilateral STG.[8] In schizophrenia, the left STG fails to deactivate in the presence of activation of the left DLPFC.[9] Interestingly, STG dysfunction is seen only during active phase of psychosis. Its absence in asymptomatic patients with schizophrenia and bipolar disorder[10,11] suggest that a foreign accent-like syndrome may be linked to the functional disconnection between the left DLPFC and left STG dysfunction in patients with active psychosis.[5]

Performing functional neuroimaging, including positron-emission tomography, functional MRI, and single-photon emission computed tomography, of patients with FAS could shed more light on the possible link between FAS and psychosis. In a case report of a patient with bipolar disorder who developed FAS, MRI initially showed no structural lesion but a later functional imaging scan revealed a cerebral infarct in the left insular and anterior temporal cortex.[2]

One of the limitations in Ms. D's case is the lack of neuroimaging studies. For the first few weeks of her hospitalization, it was difficult to communicate with Ms. D. She did not acknowledge her illness and would not cooperate with treatment. She was withdrawn and seemed to experience hysterical mutism, which she perceived as caused by extreme food allergies. Later, as her symptoms continued to improve with pharmacologic and psychotherapeutic interventions, neuroimaging was no longer clinically necessary.

Clinical Point

One hypothesis links FAS to functional disconnection between the DLPFC and STG during active psychosis

OUTCOME Accent disappears

As Ms. D improves, psychotherapy evolves to gently and carefully challenging her delusions and providing insight-oriented interventions and trauma therapy. As her delusions gradually start to loosen, Ms. D reveals she had been physically and emotionally abused by her husband.

At discharge after 90 days in the hospital, Ms. D's symptoms are well managed and she no longer shows signs of a thought disorder. Her thinking is clear, rational, and logical. She demonstrates incredible insight and appreciation that she needs to stay in treatment and continue to take divalproex and risperidone. Her delusions appear to be completely resolved and she is focused on reuniting with her son. Many of her previous delusions appear to be related to trauma and partly dissociative.

Ms. D contacts the psychologist several months later to report she is doing well in the community, staying in treatment, and working on legal means to reunite with her son. No trace of any foreign accent is detectable in her voice.

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Bottom Line

Newly acquired foreign accent in absence of an organic cause may be an early manifestation of underlying psychosis. Severity of psychosis can correlate with the magnitude of foreign accent syndrome, which can be used to assess a patient's progress and response to treatment.

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Related Resources

- Miller N, Lowit A, O'Sullivan H. What makes acquired foreign accent syndrome foreign? Journal of Neurolinguistics. 2006; 19:385-409.
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Drug Brand Names

Benztropine • Cogentin
Diphenhydramine • Benadryl
Divalproex • Depakote
Escitalopram • Lexapro
Haloperidol • Haldol
Lorazepam • Ativan
Risperidone • Risperdal
Ziprasidone • Geodon

Disclosure

The authors report no financial relationship with any company whose products are mentioned in this article or with manufacturers of competing products.