

Dysphagia in a patient with schizophrenia: Is the antipsychotic the culprit?

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Mr. N, age 58, has a history of schizophrenia, tobacco use disorder, and alcohol use disorder. For many years, Mr. N has been receiving IM olanzapine 2.5 mg/d to treat his schizophrenia. He lives in a psychiatric hospital but was sent to our hospital after being found to have severe oropharyngeal dysphasia on a modified barium swallow study. There was concern for aspiration due to a history of choking episodes, which had been occurring for almost 1 month. During the modified barium swallow study, Mr. N was noted to have aspiration with deep laryngeal penetration during the pharyngeal stages of swallowing to all consistencies; this did not improve with the chin-tuck maneuver. In addition, during a CT scan of the cervical spine, an osteophyte was noted at the C5-C6 level, with possible impingement of the cervical esophagus and decreased upper esophageal sphincter opening.

Due to these findings, Mr. N was sent to our emergency department (ED) for further evaluation. In the ED, his vital signs were stable. He endorsed having a cough after eating, a sensation of having food stuck in his throat, and some hoarseness.

His physical examination was notable for poor dentition. Results of a standard laboratory workup were all within normal limits. X-ray was notable for hazy opacities in the right upper to mid lung zones. Mr. N was admitted to the medical unit for further evaluation and management.

Narrowing the diagnosis

Because Mr. N was aspirating both liquids and solids, it was imperative that we identify the cause as soon as possible. The consultations that followed slowly guided the treatment team toward a diagnosis of antipsychotic-induced dysphagia. Otolaryngology identified insensate larynx during a flexible fiberoptic laryngoscopy exam, which was highly suggestive of a neurological dysfunction such as dystonia. Furthermore, an esophago-gastroduodenoscopy found no structural abnormalities to explain Mr. N's dysphagia, which ruled out impingement of the cervical esophagus by the osteophyte. An MRI of the brain ruled out structural abnormalities or evidence of stroke. Finally, a speech and language pathologist confirmed decreased laryngeal closure and airway protection with a repeat modified barium swallow, which led to aspiration during swallowing. Psychiatry recommended starting diphenhydramine to treat Mr. N's extrapyramidal symptoms (EPS). A 6-day trial was initiated, with a single 50 mg IV dose on the first day followed by 25 mL oral twice daily for the remaining 5 days. In addition, olanzapine was discontinued.

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Clinical Point

All antipsychotics, and particularly first-generation agents, are associated with extrapyramidal symptoms

Table

Treating extrapyramidal symptoms

Symptom	Treatment
Dystonic reactions	<ul style="list-style-type: none"> • Discontinue/reduce dose of offending agent • Switch to an SGA if an FGA was the offending agent • Antimuscarinic agent (benztropine, trihexyphenidyl) or diphenhydramine
Tardive dystonia	<ul style="list-style-type: none"> • Discontinue/reduce dose of offending agent • Switch to an SGA if an FGA was the offending agent • Antimuscarinic agent (benztropine, trihexyphenidyl) or diphenhydramine • Benzodiazepine • Botulinum toxin injection (for facial dystonia) • Muscle relaxant (baclofen) • Dopamine-depleting agents (tetrabenazine)
Akathisia	<ul style="list-style-type: none"> • Discontinue/reduce dose of offending agent • Switch to an SGA if an FGA was the offending agent • Antimuscarinic agent (benztropine, trihexyphenidyl) or diphenhydramine • Beta-blocker (propranolol) • Amantadine • Clonidine • Benzodiazepines • Mirtazapine • Mianserin (tetracyclic antidepressant) • Cyproheptadine • Propoxyphene
Tardive dyskinesia	<ul style="list-style-type: none"> • Discontinue/reduce dose of offending agent • Switch to an SGA if an FGA was the offending agent • Withdraw antimuscarinic agent • Botulinum toxin injection (for facial dyskinesia) • Benzodiazepines • Amantadine • Dopamine-depleting agents (tetrabenazine)
Drug-induced parkinsonism	<ul style="list-style-type: none"> • Discontinue/reduce dose of offending agent • Switch to an SGA if an FGA was the offending agent • Antimuscarinic agent (benztropine, trihexyphenidyl) or diphenhydramine • Amantadine • Dopamine agonists • Levodopa

FGA: first-generation antipsychotic; SGA: second-generation antipsychotic
Source: Reference 2

Switching to a different diet and antipsychotic

Two days after starting diphenhydramine, Mr. N was switched to a puree diet. His ability to swallow improved, and he no longer coughed. However, on repeat modified barium swallow, aspiration was still noted for all types of liquids and solids. No structural improvements were seen.

Mr. N was discharged back to his psychiatric hospital, and his antipsychotic was

changed from olanzapine to oral aripiprazole 2 mg/d. The aripiprazole dose was kept low to prevent the recurrence of dystonia and because at the time, his schizophrenia was asymptomatic. Mr. N was also prescribed oral diphenhydramine 25 mL twice daily.

At a 2-week follow-up appointment, Mr. N continued to show clinical improvement on the puree diet with thin liquids and continued the prescribed medication regimen.

Dysphagia as a manifestation of EPS

All antipsychotics, and particularly first-generation agents, are associated with EPS.¹ These symptoms may be the result of antagonistic binding of dopaminergic D2 receptors within mesolimbic and mesocortical pathways of the brain, as well as parts of basal ganglia such as the caudate nucleus.²

In addition to the examples listed in the *Table*² (page e2), EPS can present as dysphagia, esophageal dysmotility, or aspiration, none of which may be recognized as EPS. Research has found haloperidol, loxapine, trifluoperazine, olanzapine, risperidone, quetiapine, clozapine, and aripiprazole are associated with dysphagia.³⁻⁶ Strategies to treat antipsychotic-induced dysphagia include discontinuing the antipsychotic, lowering the dose, and changing to another medication.⁷

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