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## CASE REPORT

## Asymptomatic dysphagia causing recurrent aspiration pneumonia

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**SUMMARY**

52-year-old male patient with known bipolar disorder and innate cerebral palsy causing widespread spasticity problems. Treated for 2 years with antidepressants and electroconvulsive therapy. He repeatedly presented with—and was treated for—pneumonia resulting in more than 20 episodes of hospital admission. He underwent numerous examinations until a diagnosis of dysphagia was established using video fluoroscopic swallowing examination (modified barium swallow). Eventually, as all other treatment regimens had proven effortless, percutaneous gastrostomy feeding tube was inserted and intensive training with a specialised occupational therapist was started. This treatment regimen caused the recurrent episodes of pneumonia to vanish. It is important to acknowledge that otherwise silent dysphagia may cause recurrent pneumonia.

**BACKGROUND**

Pneumonia is a very common condition that most doctors face frequently, and normally it is rather easy to treat. However, when a patient presents with recurrent pneumonia, it is time to pause and consider why—including age and expositions into considerations.

It is important to note that in many cases, swallowing disorders may occur in the absence of symptomatic dysphagia. Silent aspiration may occur when the patient is unaware and there are no signs of obstruction such as coughing. As a result, aspiration is often overlooked and silent dysphagia may cause recurrent pneumonia.

**CASE PRESENTATION**

A 52-year-old man with known congenital cerebral palsy causing widespread spasticity problems, swallowing dysfunction and bipolar affective mental disorder. He was treated with phenytoin, carbamazepine and baclofen.

Due to personality and behavioural disorder, depressive traits and self-harm, the patient was admitted to the psychiatric department 15 times in 2012 and 14 times in 2013 and was treated with electroconvulsive therapy (ECT) 12 times in 2013.

In 2014, he had 22 contacts to the emergency department due to pneumonia.

Suspected asthma led to treatment with inhalation medication without effect.

Immunodeficiency disorder was ruled out.

Bronchoscopy was macroscopically normal, negative microbiological growth.

Walking test and lung function test were normal.

Referred to occupational therapist in February 2015 for swallowing test without signs of dysfunction. However, strength, muscle tone and coordination of the tongue were found to be reduced. A video fluoroscopic swallowing examination (VFSE), also called modified barium swallow, in April 2015 showed ‘profound tendency of retention in vallecula and silent aspiration’.

A nasogastric feeding tube was placed tentatively, resolving the recurrent episodes of pneumonia immediately. In August 2015, a percutaneous gastrostomy feeding tube was placed and intensive training with a specialised occupational therapist was initiated—primarily involving training of the swallowing function, the strength of the muscles in the tongue and the throat as well as paying much attention when drinking and eating. The patient started off with nothing per os for a month, followed by very slow introduction of fluid and solid food over a course of several months (case time course shown in [table 1](#)).

**INVESTIGATIONS**

- ▶ Otorhinolaryngologist, flexible laryngoscopy.
- ▶ Neurological evaluation.
- ▶ Psychiatric medicine adjustment, electroconvulsive therapy.
- ▶ Respiratory physician evaluation.
- ▶ Immunodeficiency evaluation, HIV test.
- ▶ Bronchoscopy.
- ▶ High-resolution CT.
- ▶ Six-minute walking test.
- ▶ Lung function test.
- ▶ Specialised occupational therapist evaluation.
- ▶ VFSE×3.

**DIFFERENTIAL DIAGNOSIS**

- ▶ Tracheo-oesophageal and tracheopulmonary fistulas.
- ▶ Foreign bodies.
- ▶ Infections.
- ▶ Obliterative bronchiolitis.

**TREATMENT**

Multidisciplinary teamwork:

- ▶ Specialised occupational therapist.
- ▶ Gastroenterology surgeon.
- ▶ Respiratory physician.



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## Reminder of important clinical lesson

**Table 1** Schematic overview of the case time course

2014	2015	2016	2017
22 admissions due to pneumonia	April: VFSE shows retention and silent aspiration  August: insertion of gastrostomy feeding tube	May: removal of feeding tube  No new episodes of pneumonia for several months	September: VFSE without change
	August–May: intensive training with speech therapist  VFSE without change		

VFSE, video fluoroscopic swallowing examination.

### OUTCOME AND FOLLOW-UP

After 9 months of treatment without pneumonia, the gastrostomy tube was removed. No incidence of pneumonia occurred in the 6 months following removal.

VFSE control in September 2017 showed unchanged profound tendency of retention and silent aspiration.

### DISCUSSION

In the case presented, a patient with numerous predisposing conditions—such as cerebral palsy<sup>1,2</sup> with related behavioural, emotional and psychiatric disorders<sup>3,4</sup> as well as gastrointestinal symptoms<sup>5–7</sup> and treatment with neuropsychiatric medication<sup>8–11</sup>—was admitted repeatedly due to pneumonia and underwent numerous examinations. Because of silent aspiration, the possibility of a swallowing disorder was not pursued until rather late in the course.

Numerous solutions were tried, including sleeping with the head elevated, reduction in the neuropsychiatric medication as well as prophylactic antibiotics with azithromycin.

The final treatment solution with a gastrostomy tube and the intense occupational therapist training may seem rather drastic, but the time course, the number and severity of the pneumonia episodes as well as the deterioration of the patient's mental state resulting in admission due to depression and even ECT treatment should be included in the considerations. Indeed, silent aspiration can be missed—especially in a patient with cerebral palsy. The result can be devastating as well as life-threatening.

### Patient's perspective

I had a very rough time accepting the feeding tube and the fact that I was not allowed to eat or drink for several weeks. On the other hand, the recurrent pneumonia and hospitalisations made my life miserable: I was physically weakened, had poor quality of life and was admitted several times due to depression caused by my situation.

After re-introduction of food, my mood improved as well as my physical shape... in the end I got my life back!

### Learning points

- ▶ Aspiration in patients with recurrent episodes of pneumonia should be considered.
- ▶ Numerous conditions can lead to aspiration, including a variety of different medications.
- ▶ Aspiration can be silent and thus easily overlooked.
- ▶ Silent aspiration can be devastating as well as life-threatening.
- ▶ A rather simple solution such as a feeding tube should not be ignored and should be considered early on as a treatment solution in relevant patients.
- ▶ Specialist training by an occupational therapist of the swallowing function and the muscle strength in the tongue and throat can be pivotal.

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