Algorithm for Dysphagia Screening

Subjects: Clinical Neurology
Contributor: Pengxu Wei

Dysphagia is often unrecognized because many people are unfamiliar with symptoms and signs of dysphagia besides choking during swallowing. Dysphagia screening is therefore important. A good screening should be a quick process and minimally invasive but can determine the likelihood of dysphagia. Here, an algorithm for dysphagia screening is introduced. The algorithm can be used for people unspecialized in dysphagia.

Dysphagia

Screening

Algorithm

1. Introduction

Dysphagia, or difficulty swallowing, may result in acute asphyxia (airway obstruction) [1], aspiration pneumonia, dehydration, and malnutrition [2]. Dysphagia has been reported in 8.1-80 % of stroke patients, 11-81 % of Parkinson's disease, and 91.7 % of patients with community-acquired pneumonia [3]. The prevalence of difficulty swallowing in the community-dwelling elderly may be up to 72% [2]. However, dysphagia is often unrecognized because many people are unfamiliar with symptoms and signs of dysphagia (Figure 1) besides choking during swallowing. For nonprofessionals, many of these symptoms and signs are not easily recognized to be associated with dysphagia. Dysphagia screening is therefore important.

Signs and symptoms of dysphagia

- Coughing or choking with swallowing
- Difficulty initiating swallowing
- · Food sticking in the throat
- Drooling
- Inability to maintain lip closure, leading to food and/or liquids leaking from the oral cavity
- · Unexplained weight loss
- Change in dietary habits
- Recurring aspiration pneumonia/respiratory infection and/or fever
- Change in voice or speech (wet voice)
- Nasal regurgitation/food and/or liquids leaking from the nasal cavity
- Extra effort or time needed to chew or swallow
- Weight loss or dehydration from not being able to eat enough
- Sensation of food sticking in the chest or throat
- Oral or pharyngeal regurgitation
- Change in dietary habits
- Recurrent pneumonia

 $https://www.asha.org/PRPSpecificTopic.aspx?folderid=8589942550\§ion=Signs_and_Symptoms https://emedicine.medscape.com/article/2212409$

Figure 1. Signs and symptoms of dysphagia

2. Influence and application

A good screening should be a quick process and minimally invasive but can determine the likelihood of dysphagia [4]. Here, an algorithm for dysphagia screening is introduced (Figure 2). The algorithm can be used for people unspecialized in dysphagia, *e.g.*, public health practitioners, nurses, or family physicians who have not received the specific training of diagnosing and treating swallowing disorders.

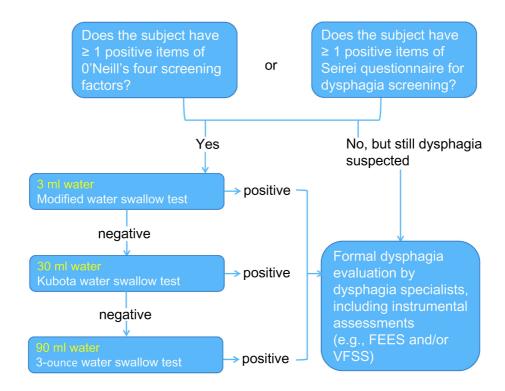


Figure 2. Algorithm for dysphagia screening

This algorithm is a battery of tests applied to screen dysphagia. Each of these tests is simple to learn and use, does not need professional equipment, and does not take much time to perform.

The algorithm includes an initial evaluation of the likelihood of dysphagia including several screening factors introduced by 0'Neill [5] and the Ohkuma Questionnaire (Figure 3), and then several sequential water swallow tests including the Modified water swallow test (3 ml), Kubota water swallowing test (30 ml), and 3-ounce water swallow test (approximate 90 ml) [9][10]. Tests with increased volumes of water become more challenging to swallowing ability and therefore are more sensitive. For example, a subject with mild dysphagia may pass the 3 ml water swallow test but fail in the 3-ounce water swallow test.

The most useful factors pointing towards high risks of aspiration include: (1) any disturbance of conscious level; (2) wet voice; (3) weak voluntary cough; (4) cough on drinking small volumes of water; and (5) a timed water

swallowing test [5].

For each of the water swallowing tests (3 ml, 30 ml, and 90 ml), failed to swallow with choking, changes in breathing, presenting post-swallow wet-hoarse voice, holding water in the mouth while drinking, water coming out of the mouth, and throat clearing during or shortly after drinking are positive findings. The 3 ml water swallowing test should be repeated 3 times if the examinee does not demonstrate abnormal signs, and the worst assessment is used as the final result. The 30 ml water swallowing test or 3-ounce water swallow test is performed only once. It is considered abnormal if a subject cannot complete drinking 30 ml water at normal temperature from a cup within 5 s or cannot drink 3-ounce water from a cup without interruption [9][10].

Positive findings indicate the necessity for a formal dysphagia evaluation including a flexible endoscopic evaluation of swallowing (FEES) and/or videofluorographic swallowing study (VFSS). FEES and VFSS are considered gold-standard procedures to diagnose dysphagia [11].

摂食・嚥下障害質問紙 (Japanese version: 大熊るり,藤島一郎 et al)

Seirei吞咽障碍筛查问卷(中文版:魏鹏绪,唐志明,窦祖林译)

Seirei questionnaire for dysphagia screening (for interpretation)

あなたの嚥下(飲み込み、食べ物を口から食べて胃まで運ぶこと)の状態についていくつかの質問をいたします。ここ2,3年のことについてお答え下さい。

いずれも大切な症状ですので、よく読んでA、B、Cのいずれかに丸をつけて下さい。

此问卷调查与您吞咽功能状态有关的一些问题(吞咽,是指吃东西时食物从嘴到胃的运送过程)。请按照最近 2~3 年的表现回答。下面都是重要的问题。请仔细阅读后,在 A、B、C 中选择最符合的一项。

This questionnaire includes questions on your swallowing status. Please answer based on your condition during recent 2 to 3 years. All items are important. Thus, please mark the most appropriate option from A, B, or C after reading carefully.

编号	问题	A. (严重/	B. (轻中度/	C. (无
		serious)	mild or moderate)	/no)
1	肺炎と診断されたことがありますか?	繰り返す	一度だけ	なし
	是否被诊断过肺炎?	多次	仅1次	没有
	Have you ever been diagnosed as having pneumonia?	Repeatedly	Once	No
2	やせてきましたか?	明らかに	わずかに	なし
	变瘦了吗?	明显	有一点	没有
	Have you become thin?	Obviously	Slightly	No
3	物が飲み込みにくいと感じることがありますか?	しばしば	ときどき	なし
	咽东西时有感到困难的情况吗?	经常	有时候	没有
	Do you feel difficulty when swallowing something?	Many times	Sometimes	No
4	食事中にむせることがありますか?	しばしば	ときどき	なし
	吃饭的时候有呛咳的情况吗?	经常	有时候	没有
	Do you ever choke during a meal?	Many times	Sometimes	No
5	お茶を飲むときにむせることがありますか?	しばしば	ときどき	なし
	喝茶[或喝水]的时候有呛咳的情况吗?	经常	有时候	没有
	Do you ever choke when swallowing tea or water?	Many times	Sometimes	No
6	食事中や食後、それ以外の時にものどがゴロゴロ (痰がからんだ感	しばしば	ときどき	なし
	じ)することがありますか?	经常	有时候	没有
	在吃饭时或吃完饭后、或者在其他时间, 喉咙(嗓子)有咕噜咕噜响	Many times	Sometimes	No
	(像有痰的感觉)的情况吗?			
	Do you ever have bubbling sounds in the throat (feeling like phlegm)			
	during or after a meal, or at other times?			
7	のどに食べ物が残る感じがすることがありますか?	しばしば	ときどき	なし
	感觉食物残留在喉咙(嗓子)里,有这种情况吗?	经常	有时候	没有
	Do you ever feel residue food left in the throat?	Many times	Sometimes	No

	8	食べるのが遅くなりましたか?	たいへん	わずかに	なし		
		吃东西的速度变慢了吗?Figure 3. Questionnaire for dysphagia	歌 善 ening.	有一点	没有		
		Was your eating getting slower than usual?	Very much	Slightly	No		
	9	硬いものが食べにくくなりましたか?	たいへん	わずかに	なし		
R	oforon	吃硬的东西变得困难了吗?	严重	有一点	没有		
	eferer	Was it getting difficult to eat hard food?	Very much	Slightly	No		
1.	Samue	Is⊐; ChadwickDD. Predictors of asphyxiation risk in	n adults with in	tellectural disa	abilities and		
	dyspha	g複食物的機構與出象的構成型Pes. 2006. 50(Pt 5): 362-70.	经常	有时候	没有		
2.	Madha	Do you ever drop food from your mouth?	Many times Prevalence (Sometimes of and Risk F	No actors for		
	Dyspha	ロの中に食べ物が残ることがありますか? Igia in the Community Dwelling Elderly: A Systemation	c Review. J Nu	tr Health Agii	ng. 2016.		
	20(8): 8	306-815.	经常	有时候	没有		
		Do you ever have residue food left in the mouth?	Many times	Sometimes	No		
3.		va C. Gemmell E. Kenyvorthy J. Speyer R. A. System 食物や酸っぱい液が胃からのとに戻ってくることがありますが?		the Prevalen	ce of		
	Oropna	ryngeal Dysphagia in Stroke, Parkinson's Disease, /有食物或酸水从胃里返流到喉咙(嗓子)的情况吗?	Alzneimer's Dis 经常	sease, Head 有时候	Injury, and		
	Pneum	onia. Dysphagia. 2016. 31(3): 434-41. Does food or sour liquid go back into the throat from your stomach?	Many times	Sometimes	No		
4.	Dønova	ndnigs Sk. Edmiaston J. Foldingia sc	reeming: state	ofethe art: inv	tational		
	confere	n在胸部(在進位生)g 有感觉 計物現在10 或使的特别的 Nursing Sy	mapsium, Inte	er natio nal Stro	Dk没有		
	Confer	D6G02010 hart the recking that told Was relatively or got stuck in	Many times	Sometimes	No		
5.	O'Neill	PX. Swelliswing and prevention of complications. Br	Med Bull. 2000). 56(2): 457-	65.		
c	14 Oblaans	夜、咳で眠れなかったり目覚めることがありますか?	しばしば	ときどき	なし dvoobogie		
6.	Onkum	a R. F.I. Kojima C. HK, Takehara I. MY. Development o 有夜里因为哆嗽不能入睡、或哆醒的情况吗?	n a questionna 经常	me to screen 有时候	dysphagia.		
	эрн э ц	ysphagia Rehabil. 2002. 6: 3–8. At night, because of coughing, do you ever have difficulty falling	Many times	Sometimes	No		
7.	Kawasl	าเลาละหัง เชิงชนโดยสหเลโง เคียjishima I. Prevalence of dys	ohagia among	community-d	welling		
	elderly	individuals as estimated using a questionnaire for dy	vsphagia scree	ning Dyspha	ig <u>i</u> a. 2004.		
	19(4): 2	266万世音变得嘶哑了(嘎啦嘎啦的声音、沙哑等改变)?	严重	有一点	没有		
8.	Papado	pourcy ousetting hearse? pource of the contract of the contrac	orous, Beris A	, Slightly , Poumis A. A	Adaptation		
and AssesseneRepetalend,在对面内部的文明的识别,并由它的是一个是一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一个一							
	D英语为ra型有英名地色nn的是目的物中的分类的有相剧新导ng的标题也对多数增强,确定的一中文版本。方括号之内文字为译者						

所加。"最近 2~3 年的表现"指从 2~3 年前至最近的任意一段时间内, 而不一定是症状持续了 2~3 年。
9. Suiter DM, Leder SB. Clinical utility of the 3-ounce water swallow test. Dysphagia. 2008. 23(3): 15 个题目中任意一题选择 A,提示存在容咽功能异常[4]。 244-50.

- 10. Peripportunitions, Markeding, Malanalidation, of the Garage Malanalidation of the Garage Malanalida
- 11. Similth Plan Thromas CAnisolous tell dension and Assessment College it and Predicting Association in Practical Symmetric Symmetric

Retrieved from https://encyclopedia.pub/entry/history/show/9046