

Dysphagia- A Review

Sneha Sree.S

Saveetha Dental College Chennai-77.

Abstract:

Dysphagia is defined as difficulty in swallowing. It is usually associated either with pharyngeal or oesophageal disease. The Dysphagia lusoria refers to an extraordinary disposition of the subclavian artery (lusorian artery) as a cause of oesophageal obstruction. Although most individuals are asymptomatic, they might present with unspecific thoracic pain, dysphagia, dyspnea, arterioesophageal or arteriotracheal fistulae with hematemesis or hemoptysis. The various embryologic anomalies of the arterialbrachial arch system often remain unrecognized and asymptomatic, but in 30%-40% of cases can result in tracheo-oesophageal symptoms, which in the majority of cases manifest as dysphagia. Diagnosis of dysphagia lusoria is via barium swallow and chest Computed tomography scan. Manometric abnormalities are variable, but age-related manometric changes may contribute to clinically relevant dysphagia lusoria in patients who present later in life.. An aberrant right subclavian artery is the commonest aortic arch anomaly. An aberrant subclavian artery is a rare cause of dysphagia in adults.

Key words:

dysphagia lusoria, chronic dysphagia, right subclavian artery, swallowing, oesophagus.

INTRODUCTION:

Dysphagia is the medical term used to refer to difficulty of swallowing. This may also be defined as the feeling of "food sticking" at the chest or throat [1]. It is also described as taking more effort and time to move the liquid or food ingested from mouth to the stomach. This term is derived from Greek words, *dys* (disordered or bad), and *phago* (eat) [2]. The term Dysphagia lusoria was derived from the term "lusus nature" or "freak of nature" which was first introduced by Bayford in 1794 to refer to an extraordinary disposition of the right subclavian artery (arteria lusoria) as a cause of oesophageal obstruction that was recognized post mortem in a woman with lifelong dysphagia who eventually died of starvation [3]. An aberrant right subclavian artery is a relatively common congenital anomaly. Repetitive swallowing eating slowly is easier, escape of food and saliva from mouth or nose, coughing. Adults with aberrant right subclavian arteries do not have symptoms. Diagnosis of chronic dysphagia includes water swallowing test, other swallowing tests, endoscopy [4]. Diagnosis of dysphagia lusoria is via barium swallow and chest Computed tomography scan. Manometric abnormalities are variable, but age-related manometric changes may contribute to clinically relevant dysphagia lusoria in patients who present later in life. Chronic dysphagia can be treated in many ways like surgery, medicine, dialation [5]. In patients who present at an advanced age, decreased vascular compliance is thought to be the most predominant factor. Dysphagia is mostly treated by different operative procedures, including open surgery, intraluminal endovascular treatment, and a combined surgical-endovascular approach (hybrid operation) with right subclavian artery transposition and thoracic aortic stent graft implantation [6].

CAUSES:

Chronic dysphagia is trouble swallowing. It occurs when you have trouble moving food or liquid down your esophagus to your stomach. It may occur when you eat, drink, or any time you try to swallow [7]. Dysphagia lusoria was used to refer to all aortic root anomalies causing oesophageal dysphagia. The lusorian artery arises from two abnormal aortic developments during the embryonic stage. The first anomaly is an aberrant right subclavian artery (RSC) with normal aortic arch due to abnormal involution of the right aortic arch proximal to the origin of the right subclavian so that the distal part of the right aortic arch forms the proximal part of the right subclavian artery, which shortens during development of the embryo [8]. The origin of the right subclavian therefore arises distal to the origin of the left subclavian and the RSC crosses the midline between the oesophagus and vertebral column to reach the right upper extremity. About a third of people with this anatomic variant experience symptoms. Dysphagia is experienced in 90% of such cases, whereas dyspnea, is less common [9]. It has a prevalence of up to 1.8%. The second anomaly is an aberrant left subclavian artery with persistence right aortic arch due to failure of the distal portion of the right arch. The majority of cases of dysphagia lusoria are due to ARSA causing posterior oesophageal compression; yet only 20%-40% of aberrant arteries are thought to cause tracheo-oesophageal symptoms including dysphagia. Contributing factors for the development of symptomatic dysphagia oesophageal compression caused by progressive aneurysmal dilatation of the aberrant artery or arteriosclerosis-induced rigidity of the vessel wall [11]. In elderly persons include decreased flexibility of the esophagus itself associated with aging, and increased.

SYMPTOMS:

Although dysphagia can occur in individual, it's more common in babies and old people. baby is having trouble swallowing from the following symptoms: Getting cranky, tensing the body and denying to eat Vomiting the food, regurgitation or gurgling out liquid food, choking while feeding, gasping for breath, coughing Infants would also have problem in breastfeeding. Old people with dysphagia will experience the following difficulties: Frequent gag reflex and coughing while swallowing, pain while food passes down in stomach chest pain due to choking of food, heartburn acidity as stomach acids move up to throat[12]. Most common symptoms include: Repetitive swallowing eating slowly is easier, escape of food and saliva from mouth or nose, coughing and spluttering when eating or drinking, husky voice and usual clearing of throat, feeling like food is stuck in your throat or pressure in your chest after you eat, fatigue[13]. Adults with aberrant right subclavian arteries do not have symptoms. A small minority have a severe enough disturbance in swallowing that leads to inability to swallow and severe nutritional problems. In children, the most common presentations are stridor and recurrent chest infections, may be due to their tracheal softening comparing to adult population[14].

DIAGNOSIS:

The first step to diagnosing and treating Dysphagia is through self-recognition: Presence of signs or symptoms, Pre-existing or history of diseases affecting swallowing, Weight loss. Physical examination includes: Neurologic assessment, Observation of swallowing Assessment of the trachea: If it cannot be moved from side-to-side using the hand, this may indicate tumor located at the trachea or esophagus[15]. Checking for presence of tumors that may compress the pharynx Observation for presence of tongue atrophy (decrease in size) and fasciculation Chronic dysphagia is often diagnosed by: **A water swallow screening test** will show how well you swallow thinner liquids, such as water. Thinner liquids can make you choke more easily than thicker liquids. This test may show signs of dysphagia and aspiration (movement of liquid into your lungs). It can be used to help caregivers decide if you need other tests. **Other swallow tests** may show which parts of your throat or esophagus are not working well. These tests may include x-rays of your throat and esophagus. You may be given a thick liquid called barium to help your esophagus show up better on x-rays. These tests may also show if the position of your head affects the way you swallow[16]. **Endoscopy** is a procedure that may show narrowing or inflammation in your esophagus. **Manometry** measures the pressure within the esophagus and stomach. **pH monitoring** is used to check your throat for acid reflux. Dynamic barium swallow studies, including assessment of solid bolus swallow, serve as diagnostic screening for dysphagia lusoria. CT chest or magnetic resonance imaging with vascular reconstruction are used to define the vascular lesion and plan surgical interventions. Manometry may show variable abnormalities and is not helpful in diagnosis of dysphagia[17].

TREATMENT:

Medicine: If the dysphagia is associated to a certain underlying disease, prescription of medicines targeted to treat the underlying cause, may be done[18]. Commonly, medications given are those which can resolve hyperacidity, prevent stomach acid from going to esophagus, or drugs to treat infections. On the other hand, if dysphagia is caused by a medication, this may be stopped or replaced with another one. Usually, drugs for insomnia and epilepsy can affect swallowing. **Surgery:** This is advised if the cause of dysphagia is obstruction such as diverticula or tumors. It can also be used to treat achalasia. **Dilation:** This is used to expand the narrowed areas of the esophagus. This is done with the use of a special device[19]. **Endoscopy:** Aside from diagnosis, endoscopy can also play a role in the treatment of dysphagia. This is used for the removal of the object that has been stuck at the esophagus. Treatment will depend on the cause of your dysphagia. medicine may be needed to reduce acid reflux or muscle spasms in your throat[20]. You may also need any of the following: **Diet changes** may reduce choking problems. Your caregiver may show you how to thicken liquids or soften foods to make them easier to swallow. **Swallowing therapy** can teach you different ways of swallowing by using different head and body positions. You may be taught exercises to strengthen the muscles that help you swallow[21]. first reported surgical management of dysphagia, describing the division and ligation of an aberrant right subclavian artery is *via* left thoracotomy. The most common approach to repair of a right sided aortic arch and aberrant left subclavian artery is a left postero-lateral thoracotomy followed by division of the ligamentum with dissection. This allows the mediastinal structures to be freed in order to assume a less constricting position[22]. The decision to ligate or re-implant the aberrant vessel to avoid steal syndrome remains an intra-operative one. Recently, endovascular procedures or combined operative and endovascular treatment options (hybrid operation) have been reported for the management of disorders of the thoracic aorta and the supra-aortic vessels. In few cases where dysphagia associated with a nonaneurysmal lusorian artery, a lusorian artery aneurysm, or ischemia owing to stenosis of the aberrant right subclavian artery were treated by endovascular procedures. A Subsequent oesophagogram shows improvement in symptoms[23].

CONCLUSION:

Dysphagia is the medical term for the symptom of difficulty in swallowing. The diagnosis and treatment also varies according to the symptoms. Changes in diet shows good improvement[24]. A high index of suspicion for the diagnosis of Dysphagia lusoria should be considered in asymptomatic or symptomatic patients with right aortic arch regardless of the severity of the symptoms. Although the barium esophagogram is often suggestive of the diagnosis, non-invasive angiography in the form of contrast computed tomography (CT scan) or magnetic resonance is essential for confirmation of the diagnosis, follow up and surgical planning. Surgical vascular reconstruction is reserved for those patients with severe progressive symptoms or those

who failed to respond to dietary modification; however, the type of surgical procedures will depend on presence or absence of aortic aneurysm[25] .

REFERENCE:

- [1]. Clouse RE. Gastrointestinal disease. In: Sleisenger MH, Fordtran JS, eds. Pathophysiology/Diagnosis/Management, 5th edn. Philadelphia: WB Saunders Co, 1993:341-77.
- [2]. Asherson N. David Bayford. His syndrome and sign of dysphagia lusoria. *Ann R Coll Surg Engl* 1979; **61**: 63-67 [PMID: 369446]
- [3]. Kahrilas PJ. Disorders causing oropharyngeal dysphagia. In: Sleisenger MH, Fordtran JS, eds. Pathophysiology/Diagnosis/Management, 5th edn. Philadelphia: WB Saunders Co, 1993:205-18.
- [4]. Janssen M, Baggen MG, Veen HF, Smout AJ, Bekkers JA, Jonkman JG, Ouwendijk RJ. Dysphagia lusoria: clinical aspects, manometric findings, diagnosis, and therapy. *Am J Gastroenterol* 2000; **95**: 1411-1416 [PMID: 10894572 DOI: 10.1016/S0002-9270(00)00863-7]
- [5]. Bennett JR, Castell DO. The Esophagus, 2nd edn. Boston: Little Brown and Co, 1995:29-39.
- [6]. Fockens P, Kisman K, Tytgat GNJ. Endosonographic imaging of an aberrant right subclavian (lusorian) artery. *Gastrointestinal Endosc* 1996; **43**: 419 [DOI: 10.1016/S0016-5107(96)80512-8]
- [7]. Kelly MD. Endoscopy and the aberrant right subclavian artery. *Am Surg* 2007; **73**: 1259-1261 [PMID: 18186385]
- [8]. Richter JE. Heartburn, dysphagia, odynophagia, and other esophageal symptoms. In: Sleisenger MH, Fordtran JS, eds. Pathophysiology/Diagnosis/Management, 5th edn. Philadelphia: WB Saunders Co, 1993:331-40.
- [9]. Castell DO, Donner MW. Evaluation of dysphagia: a careful history is crucial. *Dysphagia* 1987; **2**:65-71.
- [10]. Ott DJ. Endoscopy sensitivity in the detection of esophageal strictures. *J Clin Gastroenterol* 1985; **7**:121-5. 17 Gross RE. Surgical treatment for dysphagia lusoria. *Ann Surg* 1946; **124**: 532-534 [PMID: 20997805]
- [11]. Lichter I. The treatment of dysphagia lusoria in the adult. *Br J Surg* 1963; **50**: 793-796 [PMID: 14068623]
- [12]. Morris CD, Kanter KR, Miller JJ. Late-onset dysphagia lusoria. *Ann Thorac Surg* 2001; **71**: 710-712 [PMID: 11235738 DOI: 10.1016/S0003-4975(00)02241-4]
- [13]. Klinkenberg-Knol EC, Festen HP, Jansen JB, et al. Long-term treatment with omeprazole for refractory reflux esophagitis: efficacy and safety. *Ann Intern Med* 1994; **121**:161-7.
- [14]. Marks RD, Richter JE, Rizzo J, et al. Omeprazole versus H2-receptor antagonists in treating patients with peptic stricture and esophagitis. *Gastroenterology* 1994; **106**:907-15.
- [15]. Cina CS, Althani H, Pasenau J, Abouzahr L. Kommerell's diverticulum and right-sided aortic arch: a cohort study and review of the literature. *J Vasc Surg*. 2004; **39**:131-139.
- [16]. Richardson JV, Doty DB, Rossi NP, Ehrenhaft JL. Operation for aortic arch anomalies. *Ann Thorac Surg*. 1981; **31**:426-432.
- [17]. Kopp R, Witzgall I, Kreuzer E, Meimarakis G, Weidenhagen R, Kuhl A, Conrad C, Jauch KW, Lauterjung L. Surgical and endovascular treatment of symptomatic aberrant right subclavian artery (arteria lusoria). *Vascular*. 2007; **15**(2):84-91.
- [18]. Molz G, Burri B. Aberrant subclavian artery (arteria lusoria): sex differences in the prevalence of various forms of the malformation. Evaluation of 1378 observations. *Virchows Arch A Pathol Anat Histol*. 1978; **380**:303-315.
- [19]. Segesser L, Faidutti B. Symptomatic aberrant retro-esophageal subclavian artery: considerations about the surgical approach, management and results. *Thorac Cardiovasc Surg*. 1984; **32**:307-310.
- [20]. McKenna E, Kelly BE, Khan M. Dysphagia due to an aberrant left subclavian artery in a right-sided aortic arch. *Ulster Med J*. 2001; **70**(1):64-66.
- [21]. Grishaw EK, Ott DJ, Frederick MG, Gelfand DW, Chen MY. Functional abnormalities of the esophagus: a prospective analysis of radiographic findings relative to age and symptoms. *AJR Am J Roentgenol* 1996; **167**: 719-723 [PMID: 8751689]
- [22]. Tack J, Vantrappen G. The aging oesophagus. *Gut* 1997; **41**:422-424 [PMID: 9391234]
- [23]. Gross RE. Surgical treatment for dysphagia lusoria. *Ann Surg* 1946; **124**: 532-534 [PMID: 20997805]
- [24]. Lichter I. The treatment of dysphagia lusoria in the adult. *Br J Surg* 1963; **50**: 793-796 [PMID: 14068623]
- [25]. Kieffer E, Bahnini A, Koskas F. Aberrant subclavian artery: surgical treatment in thirty-three adult patients. *J Vasc Surg*. 1994; **19**:100-111