Gastroesophageal reflux disease with only extraesophageal symptoms. Case report.

Michael D. Levin

M.D. Levin, MD, Ph.D., DSc.

Department of Pediatric Radiology of the 1-st State Hospital, Minsk, Belarus.

Dorot. Medical Center for rehabilitation and geriatrics. Netanya. Israel.

https://orcid.org/0000-0001-7830-1944

nivel70@hotmail.com;

michael.levin@dorot.health.gov.il

http://www.anorectalmalformations.com

A 72-year-old man had with complaints of a debilitating cough, a change in voice, and a feeling of a foreign body in the throat for 4 months. Very rarely, small pieces of food appear in the mouth. Within a month, he wakes up at night, as he chokes on saliva. He does not feel any acid or bitterness in his mouth. He has not heartburn, pain, or dysphagia. He noted the symptoms in detail in the questionnaire (Table 1). About 15 years ago he had heartburn and chest pressure. PPI treatment did not bring relief. The symptoms disappeared immediately after he swallowed contrast tablet with diameter 3 cm. Since then, he felt healthy, did not go to the doctors, did not take any treatment, and did not follow any dietary restrictions. In the Table 1, the patient rated the severity of symptoms before treatment with a black circle. IR (index reflux), i.e., the total score during the first visit was 23.

Table 1. Questionnaire for the screening of gastroesophageal reflux disease

How concerned are you with the symptoms described below? There is no symptom - 0. A strong symptom is 5.						9.08.22 4.09.22
Hoarseness or alteration of voice	0	1	(2)	3	(4)	5
Sore throat or a desire to get rid of the irritant in the throat	0	(1)	2	(3)	4	5
Abundant sputum secreted from the back of the nose, or runny nose.	0	(1)	2	3	4	(5)
Difficulty in swallowing food, liquids or tablets	(0)	1	2	3	4	5
Cough after drinking, eating or resting in the horizontal position	0	(1)	2	3	(4)	5
Dyspnea or cases of sudden asphyxiation	(0)	1	2	3	4	5
Importunate cough	0	1	(2)	3	4	(5)
Sensation of foreign body in throat	(0)	1	(2)	3	4	5
Heartburn, chest pain or sensation of acid in the throat or mouth	(0)	1	2	3	4	5
Reflux Index (RI) Σ =23	7					

X-ray examination of the esophagus, upper (UES) and lower esophageal sphincter (LES)

This method is based on the physiology of the esophagus and the esophageal sphincters. It is known that a significant increase in gastric pressure causes a contraction in both UES and LES [1]. Secondly, an increase in the tone of the LES causes a slowdown in the rate of esophageal peristalsis [2].

Method X-ray examination with maximum provocation of EGJ function.

The method is based on a known physiological pattern: an increase in pressure in the stomach causes a reflex contraction of the upper and lower esophageal sphincters [1]. . Secondly, an increase in the tone of the LES causes a slowdown in the rate of esophageal peristalsis [2].

This method can be part of an X-ray examination of the esophagus, stomach, and duodenum or as an independent study if the suspicion of GERD was not confirmed after endoscopy.

Patient, lying on the X-ray table, he continuously drinks a barium suspension through a straw from a jar standing near his head. When the barium runs out (200-250 ml), he raises his straightened legs. At this moment, an x-ray is taken from the pharynx to the body of the stomach. After that, the patient rises and lies down again after 5 minutes. The second radiograph is taken at rest to determine the completeness of barium evacuation into the stomach and possible free reflux (Figure 1. a, b).

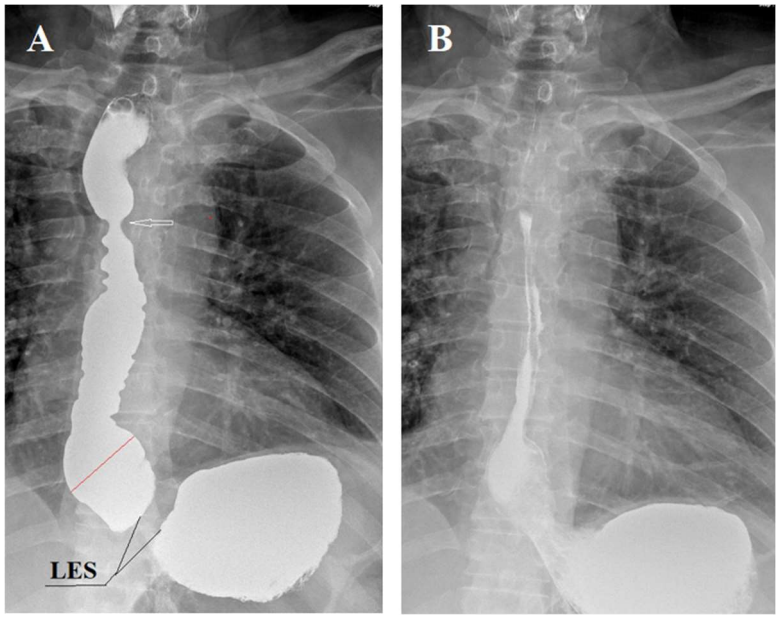

Figure 1 A. High pressure in the stomach led to a reflex contraction of the UES and LES. Tight filling of the esophagus between the UES and LES is determined. LES is significantly shorter than normal (1.7 cm versus 3.6 cm). The phrenic ampulla (red line) is sharply dilated (4.4 cm versus 1.5 cm in normal). The walls of the esophagus are uneven with asymmetric waviness. At level D-4, a

symmetrical constriction 6 mm wide with smooth contours is determined (arrow). Barium lodged in the hypopharynx is visible at the very top of the x-ray.

2.B. After 5 minutes at the rest, a spontaneous reflux of barium from the stomach into the esophagus is seen with a wide opening of the EGJ. The proximal sphincter, which most often closes the ampulla proximally, does not function in this case (on both images). Uneven longitudinal folds visible in the esophagus. But the barium didn't go above D-4 where there was constriction in the first radiograph. I believe that this is a functional sphincter that prevents acid from refluxing into the proximal esophagus. At this x-ray also seen barium stuck in the hypopharynx.

The patient swallowed a 1.9 cm tablet, which passed into the stomach immediately, which confirmed the absence of stenosis. Spasm of the esophagus at the border of the upper and middle thirds indicates a high tone, i.e., high intraluminal pressure.

Conclusion: GERD with severe esophagitis. Pharyngitis. Spasm of the functional sphincter at the site of aortic narrowing of the esophagus.

Treatment

1. Consultation with an otolaryngologist.
2. Tab. Esomeprazole 20 mg x 2 (4 weeks).
3. Tab. Esomeprazole 20 mg x 1 (4 weeks).
4. Susp. Antacid 1 tablespoon 30 minutes after eating.
5. Stop eating food containing lactose
6. Go to bed only with an empty stomach. Eat dinner 4-5 hours before bed.
7. Reduce the amount of food intake. Do not sit down for 30 minutes after eating.

Results

The patient reported by phone that from the first night after taking the tablet, he did not get up at night and did not choke on saliva as before. The otolaryngologist found an inflammatory process in his pharynx and upper esophagus and

prescribed an anti-inflammatory spray. The results of treatment 25 days after the examination are shown in table 1 in red. Reflux Index decreased from 23 to 7.

Discussion

The patient has a very weak LES. This follows firstly because it contracted as the pressure in the stomach rises, while in healthy people the force of the last peristaltic wave of the esophagus overcomes the tone of the LES and the bolus enters the stomach without delay. Therefore, in healthy individuals, LES does not contract and is not visible on the radiograph. Secondly, the length of the LES (1.7 cm) is two times shorter than the norm (3.6 cm), since its abdominal part opens in the stomach [3,4]. Thirdly, free reflux is visible in the second picture (Figure 3) in a horizontal position without pressure provocation. Therefore, he has episodes of reflux into the esophagus at night if the presence of chyme in the stomach. In milder cases, during reflux, the barium is retained in the ampulla, which is closed proximally by the functional sphincter. We call it the proximal sphincter (PS) [2]. But this functional sphincter does not function in this case, but there is a functional narrowing at the level of the anatomical narrowing of the esophagus, due to the pressure of the aortic arch. This functional sphincter we call the aortic sphincter (AS). It is often found specifically in patients with non-gastric symptoms.

Probably at night, when the patient swallows saliva, it accumulated between AS at the level of the aorta (arrow in figure 1) and the upper esophageal sphincter. When the esophagus filled with saliva between sphincters, resulted in increasing pressure, the upper esophageal sphincter cannot handle the pressure and relaxes. This causes saliva to reflux into the throat. After the passage of the tablet through this functional sphincter, its tone decreased, which contributed to the free passage of saliva through this zone.

1. This observation confirms numerous reports that GERD can progress for a long time without noticeable symptoms. From the current definition of GERD, it follows that if a person has no significant complaints, then he does not have GERD. Obviously, this definition is wrong! GERD is a chronic relapsing disease. It often progresses without clinical manifestations. The earlier the diagnosis is made and pathogenetic treatment is undertaken, the disease is easier, and the less serious complications occur.

2. The above x-ray examination lasted 10 minutes, during which two x-rays were taken. Its efficiency significantly exceeds the generally accepted method of X-ray examination. Tracking the passage of barium through the esophagus has low reliability in the diagnosis of GERD. Water-siphon test significantly increases the accuracy of diagnosis. However, it is not possible to evaluate it in numerical terms, since in all articles it was compared with pH monitoring, which was considered the gold standard without reason. However, the use of pH monitoring does not make sense, since it is known that it detects only severe forms of GERD, as a result of which in 30% of patients the diagnosis of GERD is unreasonably denied and they will not receive pathogenetic treatment.

References

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