Atypical case of achalasia

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INTRODUCTION

Esophageal cancer, represented by squamous carcinoma and adenocarcinoma, is ranked 8th in incidence among all the types of neoplasm in the world (456,000 new cases in 2012, 3.2% of total cancers), and is characterized by a significant lethal potential, being the 6th cause of cancer-induced mortality (400,000 in 2012, 4.9% of total cancers) [1]. 5 years survival after diagnosis is less than 5%, as esophageal cancer causes symptoms when more than 60% of the esophagus is infiltrated by tumor [2].

CASE REPORT

A 48-year-old patient presented for progressive dysphagia to solids, weight loss of about 15 kg and diffuse abdominal pain for the last 3 months. In addition, the patient noticed moderate dyspnea and intense pain localized at the right shoulder, without relation to movements. Two months before presentation, the patient performed a superior digestive endoscopy, which diagnosed him with ulcerative esophagitis, but without improvement of the symptoms despite recommended treatment. The patient is known with two surgical procedures, a Billroth I anastomosis for perforated gastric ulcer 12 years ago, and a cholecystectomy in 2018. Moreover, the patient had a stroke in 2014 and in 2015 was diagnosed with hepatic cirrhosis of unspecified etiology. The patient was a smoker with a 30 pack per year history and didn’t work in a toxic environment.

The patient was underweight (BMI = 18.0 kg/m²), but had a satisfactory overall condition. The abdomen was dense and painful on palpation.

The patient had hepatomegaly, was cardio-respiratory balanced and did not show any significant changes in the other organs and systems.

At the time of admission, stage diagnostics included dysphagic syndrome, abdominal algic syndrome, underweight, post-gastrectomy status, sequelae of stroke, liver cirrhosis in observation.

It is to be mentioned the inflammatory syndrome (fibrinogen = 484 mg/dL), cholestasis (total bilirubin = 1.47 mg/dL, direct bilirubin = 0.45 mg/dL, alkaline phosphatase = 145 U/L, GGT = 322 U/L), hyposideremia (Fe = 58 micrograms/dL) without anemia (Hb = 14.2 g/dL, Ht = 41.2%, RBC count 4.70 million/mm³). During

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hospitalization, hemoglobin, hematocrit, and RBC count decreased but did not indicate iron deficiency anemia (hemoglobin = 13.6 g/dL, hematocrit = 39.5, number of erythrocytes = 4.5 million/mm³). The patient’s hormonal profile indicated euthyroidism. The patient was tested for HIV infection, hepatitis B and C virus infection, Kohn bacillus infection, but the results refuted those diagnostics. CEA and CA 19-9 had elevated values (CEA = 58.21 ng/mL, CA19-9 = 47.53 U/mL) and α-fetoprotein was slightly above the normal range (AFP = 1.1 ng/mL).

Abdominal ultrasound and thoracic radiography did not reveal pathological changes in the first phase. At upper digestive endoscopy fluid debris were present in the esophagus and stomach that prevented visualization of the digestive tract. At the repeated upper digestive endoscopy, white deposits were attached to the normal mucosa at the level of the esophagus, characteristic of mycotic esophagitis. Initially, we couldn’t overcome the cardia with the normal endoscope, which is why we turned to babyscope. There were no pathological changes in the stomach and duodenum I and II, and the mouth of anastomosis from the perforated ulcer surgery was supple. Due to these endoscopic findings, the patient underwent esophageal manometry, and was diagnosed with type 2 achalasia (panesophageal pressurization 100%, IRP = 80.2 mmHg).

Taking into account the persistent symptoms and the changes of the above mentioned laboratory analyzes, computerized thoracic and abdominal tomography with contrast substance was performed. Computed tomography revealed pulmonary diffuse multiple micronodular lesions of millimetric dimension. At the eso-gastric junction a tumor block was described, with exophytic growth, with polylobate form and iodophyllic aspect, with a maximum diameter of about 5.5/3.8 cm, with small necrosis included, causing distension and stasis in the upstream esophagus. Additionally, adenopathy blocks in the small gastric curvature and celiac trunk were present, measuring up to 6 cm in diameter, the largest being without boundaries of demarcation with the celiac and pancreatic trunks. The liver was increased in size, with a maximum cranio-caudal diameter of 19.5 cm, with irregular contour, and irregular inhomogeneous structure due to the presence of multiple nodular lesions, randomly developed in the entire parenchyma that measured up to 1.8 cm, iodophyllic, some with a tendency to conflate, compatible with secondary lesions. Intrahepatic peripheral bile ducts in the left lobe exhibited slight dilation, most likely by infiltration generated by secondary lesions while extrahepatic bile ducts were unchanged. No pathological changes were detected in the abdominal vein circulation as well as in the spleen, pancreas, kidneys or adrenal glands.

Concluding the tomographic examination, it showed that the patient had a eso-gastric junction tumor with bilateral pulmonary and hepatic metastasis and abdominal adenopathy. Later on, the oncological consult confirmed the suspicion of eso-gastric tumor with metastases and recommended biopsy of the hepatic nodules in order to perform the pathological anatomy and immunohistochemical examinations. Hepatic tissue fragments were thus obtained by ultrasound-guided biopsy puncture and the result were: small fragments of liver tissue with neoplastic infiltrates of poorly differentiated carcinoma which is arranged in nests of different sizes. Tumoral cells were cytokeratin7 positive and CDX2 positive. The immunohistochemistry and histopathologic aspects sustain the diagnosis of hepatic metastasis of poorly differentiated gastric adenocarcinoma.

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The patient was then referred to a thoracic surgical consult which stated that the tumor had no surgical indication and in the event of total dysphagia the therapeutic indication was to place an esophageal stent or a gastrostomy.

An esophageal stent was placed and the patient remains under oncologic surveillance.

DISCUSSIONS

The differential diagnosis in this case started from dysphagia, the symptom which was the most intense and disturbing for the patient. One type of dysphagia is oropharyngeal dysphagia (diseases of the mouth, hypopharynx, esophagus above) in which case the cause can either be neuromuscular (SLA, central nervous system tumors, multiple sclerosis, myasthenia gravis) or structural (carcinoma, throat infections, Zenker's diverticulum) [3]. However, in this type of dysphagia, coughing and choking are described immediately after swallowing, the symptoms are often located precisely in the neck and in some cases food and fluids follow the path of the trachea or the nose.

Another type of dysphagia is esophageal that can be caused by primary disorders of motility (achalasia, esophageal spasm, esophageal hypercontractility or other disorders of the peristalsis) or secondary disorders of motility (Chagas' disease, dysfunction of gastroesophageal reflux disease, scleroderma), or may be due to intrinsic structural pathologies (benign or malignant tumor, diverticulum, eosinophilic esophagitis, esophageal rings, foreign bodies, peptic stricture) or extrinsic ones (mediastinal tumors, osteophytes spinal, vascular compression) [3].

Considering the patient's features of the dysphagia, progressive dysphagia for solids accompanied by weight loss, there was an initial suspicion of a mechanical cause with a higher likelihood of malignant tumor formation. In general, peptic strictures caused by gastroesophageal reflux disease are accompanied
by chronic heartburn and do not cause weight loss. The normal endoscopic examination of the esophageal mucosa initially directed the attention to a motility disorder, the most common being achalasia, a pathology characterized by poor relaxation of the lower esophageal sphincter in swallowing and lack of peristalsis in the smooth esophageal muscles. Dysphagia in this disease is progressive, occurs both for solid and liquid foods and is frequently associated with regurgitation, chest pain, weight loss symptoms that usually progress insidiously within about 2 years [4]. Although manometry diagnosed the patient with achalasia, the other symptoms, namely diffuse abdominal pain, dyspnea, and shoulder pain required the continuation of the investigations, the problem raised being if all the patient’s symptoms were in the context of the same disease or another disease overlapping the esophageal pathology. From paraclinical examinations, elevated tumor markers have turned attention to a possible malignant tumoral pathology at the abdominal level that required CT examination, which was the one that brought the most important information to the case.

The particularity of this case is that although the patient was initially diagnosed with type II achalasia, the manometry examination showed pseudoachalasia in the context of esophageal cancer. Data from literature suggest that such presumptive results in any manometry examination are not specific to achalasia and under the conditions of sudden symptoms in less than 1 year, with a weight loss of more than 7 kg in a patient over 50, the suspicion of pseudoachalasia is raised. Thus, 5% of the manometric results indicating achalasia are actually given by tumor pseudoachalasia [5]. Such a case has been published by Segal et al, a case of a 50-year-old UK patient with the same symptomatology as the one of the patient in our center where the diagnostic process indicated achalasia in the first phase, but metastatic adenocarcinoma was eventually detected [6].

An interesting aspect to be mentioned is that the relationship between achalasia and cancer may be a causal one, which is already known in medical practice. Patients with achalasia are at risk of developing esophageal cancer, with the predominance of the squamous cell cancer and the adenocarcinoma in some situations. On one hand, achalasia causes esophageal stasis with bacterial overpopulation and production of various chemical compounds, while causing chronic inflammatory changes in the esophageal mucosa and dysplasia. Although this complication of achalasia is reduced in frequency, the prevalence of cancer in achalasia being variable according to several studies, there were several reported cases in literature [7]. Rios-Galvez et al published a case of a patient, known with achalasia for more de 15 years, whose symptomatology had significantly aggravated within 6 months and who, after following investigations, is diagnosed with squamous carcinoma of the esophagus [8]. What is different in our case is precisely the absence of the personal pathological history, achalasia requiring a prolonged period of illness for the esophageal malignancy to occur. On the other hand, esophageal adenocarcinoma occurs more frequently in the context of gastroesophageal reflux disease as a complication of the interventional treatment of achalasia by esophageal dilatation and myotomy [7].

**CONCLUSION**

In conclusion, dysphagia may occur in many benign or malignant conditions, but in a patient with alarming signs such as age, marked weight loss, even under the condition of a diagnosis of neuromuscular motility disorder, the suspicion of a malignant process must always be raised and we should act accordingly, following paraclinical investigations that can confirm or refute it.

**References:**

2. Lyon, France: International Agency for Research on


