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UNILATERAL VOCAL CORD PARALYSIS IN GASTROINTESTINAL MALIGNANCIES- A RARE PRESENTATION

Oncology

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ABSTRACT

Background Advancements in diagnostic modalities have brought many hidden etiological causes of unilateral vocal cord paralysis (UVCP) to light. Here we are presenting two cases of gastrointestinal (GI) malignancies with metastases causing UVCP which can further add to another rare cause of UVCP.

Case summary We are presenting a case of 40 year male with metastatic periampullary carcinoma leading to UVCP and another case of 45 year female with rectal carcinoma further causing UVCP. Both patients were under treatment while during follow-up, symptoms of UVCP were observed which changed our perspective towards cases of UVCP.

Conclusion Vocal cord palsy is a symptom of an underlying disorder and not a disease. In above case reports metastases are the commonest etiology for vocal cord palsy. Relevant investigations have to be conducted in order to diagnose the etiology and the modality of treatment varies depending on the etiology of the condition.

KEYWORDS

UVCP (Unilateral Vocal Cord Paralysis), Metastases, Gastrointestinal malignancies

INTRODUCTION:

Unilateral vocal cord paralysis occurs due to different pathologies. It can be due to injury to recurrent laryngeal nerve, surgical procedure, neoplasm and undefined causes[1]. Vibration of vocal cords is made possible via vagus nerve. Vagus nerve gives two thin branches to larynx at the base of the skull. The first one is "superior laryngeal nerve" and the second is "recurrent laryngeal nerve". The latter helps in both opening and closing of vocal cords[2]. The injuries in this nerve leads to respiratory difficulty, hoarseness of voice and aspiration problems due to failure of closure. Monotonous thin voice and difficulty in controlling tone while singing songs can occur as a result of problems in superior laryngeal nerve[3].

Case Summary:

Case 1:

A 40-year-old male patient with thalassemia minor and a positive family history [both his daughters had the disease], presented with epigastric pain and icterus two and a half years back. Investigations were suggestive of periampullary carcinoma with liver metastasis (Figure 1).

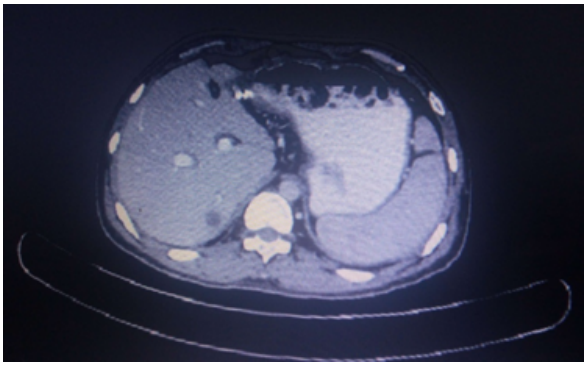

FIGURE 1- CT image showing multiple liver metastases

The patient underwent Whipple's surgery for this diagnosis. Post operative histopathology report was suggestive of well differentiated adenocarcinoma of pancreas. Following surgery, patient received 6 cycles of chemotherapy (gemcitabine and cisplatin). PET-CT after 6 cycles of chemotherapy was suggestive of non FDG avid multiple scattered hypodense lesions in both lobes of liver and multiple metabolically active nodes in the abdomen. Further, the patient started complaining of difficulty in breathing with hoarseness of voice, for which CECT (contrast enhanced computed tomography) thorax was done which showed multiple round soft tissue nodules in bilateral lung fields (maximum of size 1.3×1 cm) with few heterogeneously enhancing mediastinal lymph nodes in prevascular location and in AP window. Paramedian position of the left vocal cord was suggestive of left vocal cord palsy (Figure 2).

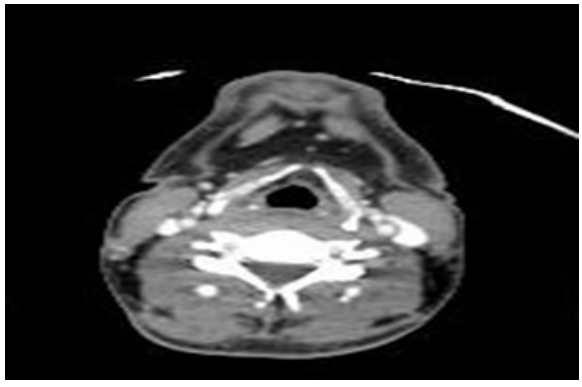

FIGURE 2- CT image showing left vocal cord involvement

Further, the patient received local EBRT (external beam radiation therapy) followed by oral chemotherapy (Capecitabine).

Case 2:

A 45-year-old female patient with well differentiated adenocarcinoma of rectum underwent a sigmoid loop colostomy followed by 50 Gy EBRT from June 2017 to August 2017, after which the patient remained asymptomatic for 2 months. After 2 months, the patient started complaining of severe abdominal pain. Her CECT (abdomen + pelvis) was suggestive of multiple metastatic deposits in the abdomen and liver with multiple enlarged abdominal nodes. For further evaluation, PET CT was performed which showed metabolically active primary involving rectum and metastases to multiple abdomino-pelvic, mediastinal and left supraclavicular lymph nodes, with liver and bilateral lung involvement. Following PET CT evaluation patient was taken up for palliative chemotherapy (FOLFOX 4). She received 6 cycles of chemotherapy and during the course of treatment a change in voice was noticed. Laryngoscopy was suggestive of left vocal cord palsy (Figure 3).

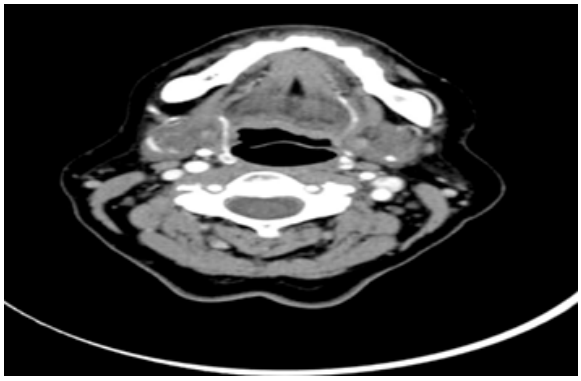

FIGURE 3- CT image showing vocal cord palsy

At present, the patient is on oral chemotherapy with Capecitabine.

DISCUSSION:

Unilateral vocal cord paralysis has many underlying pathological conditions many of which remains masked frequently. Benninger et al have reported varying etiologies for unilateral vocal cord paralysis and the changing trend with increased incidence due to extra laryngeal malignancies and iatrogenic causes[4]. The advancement in diagnostic modalities like CT and magnetic resonance imaging has brought many hidden etiologies to light. Clinically, unilateral vocal cord palsy presents as breathy voice. Nevertheless, patients may also present with various other symptoms such as dysphonia, aspiration and dysphagia. Compensation by the opposite cord, which may occur after a few weeks, further improves the vocal quality and reduces aspiration.

There have been different causes attributed to recurrent laryngeal nerve injury including iatrogenic or non-iatrogenic trauma, infection, tumor infiltration or compression, neurological disease, collagen-vascular disease and idiopathic causes[5]. This can be with or without superior laryngeal nerve injury, depending on the cause and site of the lesion. The recurrent laryngeal nerve is at risk for injury during many surgical procedures, such as thyroid, anterior cervical spine, and thoracic surgeries[6]. Mechanisms of iatrogenic injury include intubation, transaction, crush, traction, inadvertent ligature placement, and thermal injury.

Vocal fold movement affected by neurologic diseases, include multiple sclerosis, amyotrophic lateral sclerosis, syringomyelia, myasthenia gravis, Guillain-Barre syndrome and Parkinson's disease[7]. Cerebrovascular accidents may result in injury to recurrent laryngeal nerve, but typically other nerves may also be affected. Other rare associations include disorders such as Gerhard syndrome and laryngeal abductor paralysis that may be familial (autosomal dominant, autosomal recessive or X-linked inheritance and with adult onset) or acquired secondary to bulbar lesions or neurodegenerative disease. Aggressive thyroid malignancies may invade and injure the recurrent laryngeal nerve. Large goiters and non-thyroid malignancies, such as the classic Pancoast tumor involving the left upper lung can cause recurrent laryngeal nerve paralysis due to compression[8-11].

Conclusion:

Vocal cord palsy is a symptom of an underlying disorder and not a disease. According to the above case reports, metastasis is the commonest etiology for vocal cord palsy. Relevant investigations have to be conducted in order to diagnose the etiology, and the modality of treatment varies depending on the etiology of the condition.

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