Case Study: Unilateral Vocal Cord Paralysis

Michelle Powers
Henry Ford Health System

Megan Cahill
Henry Ford Health System

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Case Presentation
Patient is an 89 year old Caucasian female with a PMH of lung cancer in remission, COPD, abdominal aortic aneurysm, thyroid nodule, bladder cancer in remission after direct chemotherapy, HTN, hypothyroidism who presents to the Emergency Department with a complaint of shortness of breath and loss of voice. Her symptoms started on Thursday and had been worsening persistent since they started. She was seen at an urgent care earlier in the day for evaluation of her symptoms. She was sent to the ED for further evaluation. She states her shortness of breath is worse when she is speaking. She also experiences shortness of breath worse when she is speaking as well. She denies fever, chills, chest pain, cough, recent URI symptoms, abdominal pain, nausea, vomiting, dysuria, lower extremity swelling.

Vital signs upon arrival to the emergency department were BP 132/75, HR 74, RR 20, SpO2 97%. Temp 97.9. On physical exam the patient was resting comfortably in bed in no distress. Her physical exam including HEENT, cardiovascular, pulmonary, abdominal, musculoskeletal, neurologic, and skin, were unremarkable with the exception of a very sounding voice when speaking.

Work Up
CT soft tissue neck without contrast was obtained showing no soft tissue masses. CT chest without contrast reveals a soft tissue focal mass measuring approximately 4.5 cm X 4.0 cm. CT scan shows a 4.5 cm mass located in the left midline position. CT scan also showed a mediastinal mass. CT chest without contrast reveals a soft tissue focal mass measuring approximately 4.5 cm X 4.0 cm. CT scan shows a 4.5 cm mass located in the left midline position. CT scan also showed a mediastinal mass. CT chest without contrast reveals a soft tissue focal mass measuring approximately 4.5 cm X 4.0 cm. CT scan shows a 4.5 cm mass located in the left midline position.

Cloudscape caused pericardial effusion and a mediastinal mass. CT chest without contrast reveals a soft tissue focal mass measuring approximately 4.5 cm X 4.0 cm. CT scan shows a 4.5 cm mass located in the left midline position. CT scan also showed a mediastinal mass. CT chest without contrast reveals a soft tissue focal mass measuring approximately 4.5 cm X 4.0 cm. CT scan shows a 4.5 cm mass located in the left midline position. CT scan also showed a mediastinal mass.

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Discussion
Vocal cords are innervated by the recurrent laryngeal nerve. When this nerve becomes damaged, it causes paralysis of the vocal cord. Symptoms of this paralysis include hoarseness, dysphonia, dyspnea, and aspiration. Mechanical fixation can also be a cause. Either of these causes can be related to malignancy related to the thyroid, lung, esophagus, and/or mediastinum invading the vagus nerve or recurrent laryngeal nerve. Involvement of the left vocal cord is 1.4-2.5 times more common than the right. The left laryngeal nerve is more vulnerable than the right because it travels a longer distance in the thoracic cavity through the mediastinal lymph nodes, and around the aortic arch.1

Chen et al. found malignancy in males as the most common cause; while, the most common cause for vocal cord paralysis in females was surgery. According to Toutounchi et al., tumors in paramedian position were the most frequent etiological factor for vocal fold paralysis in men; while, idiopathic cases constitute 50% of cases in women in midline position.

References