



Can Stridor with Respiratory Symptoms be the Only Presenting Feature of Carcinoma Esophagus? – A Case Report.

Umme Kulsum Chy¹, Ashma Khatun², Susmita Hossain Natasha³

¹. Associate Consultant, Department of Critical Care Medicine, United Hospital Limited, Gulshan-2, Dhaka, Bangladesh.

². Senior House Officer, Department of Critical Care Medicine, United Hospital Limited, Gulshan-2, Dhaka, Bangladesh.

³. Junior Consultant, Department of Critical Care Medicine, United Hospital Limited, Gulshan-2, Dhaka, Bangladesh.

Case Report

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*Corresponding Author:

Dr. Umme Kulsum Chy,
Associate Consultant,
Department of Critical Care Medicine,
United Hospital Limited, Gushan,
Dhaka, Bangladesh.
E-mail: mouri.im1@gmail.com

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ABSTRACT:

Stridor is a variable, high pitched respiratory sound that can occur either during inspiration or expiration or both, most typically during inspiration. An obstruction or narrowing in upper airway of variable pathology may present with stridor. It's a medical emergency that may require urgent intervention. Rarely an esophageal or thyroid or neck or chest growth may present with stridor other than the upper airway pathology, infection or inflammation.

Here we present a case who presented with sole respiratory symptoms with stridor without any gastrointestinal complaints and/or precipitating factors, later on diagnosed as a case of esophageal carcinoma.

Key words: Stridor, Esophageal carcinoma, Bronchoscopy, Endoscopy.

INTRODUCTION:

Stridor is produced by the rapid, turbulent flow of air through a narrowed or partially obstructed segment of the extrathoracic upper airway, which may include the pharynx, epiglottis, larynx, and extrathoracic trachea.¹ Stridor may be of acute or chronic origin and causes may be different in children and adult.

Severe allergic reaction, angioedema, bacterial tracheitis (rare), croup, epiglottitis, foreign body aspiration, inhalation injury, laryngospasm, post-extubation complication, retropharyngeal abscess, vocal cord dysfunction etc. may contribute to acute stridor.² On the other hand chronic stridor is mainly due to congenital anomalies like congenital laryngomalacia & congenital tracheomalacia. Bilateral vocal cord paralysis or dysfunction due to neurodegenerative or neuromuscular disorder, thyroid or neck surgery or laryngeal tumors can also contribute to chronic stridor. Stridor can be inspiratory, expiratory or biphasic.¹ Stridor is more likely to happen in children because of their airways are narrower than the adults. Any disparity between external respiratory sound with negative chest finding on auscultation should predict extrathoracic causes of stridor. To evaluate the causes of stridor, besides detail history and thorough physical examination certain tests including flexible laryngoscopy, bronchoscopy, imaging (x-ray, CT scan, fluoroscopy, MRI, ABG, spirometry etc) should be considered.² Here we discuss a case of a woman presenting with history of occasional cough with dyspnea for couple of days followed by sudden onset stridor who later was diagnosed as esophageal carcinoma.

CASE REPORT:

A 61-year-old woman with known Diabetes Mellitus (DM) and Chronic Liver Disease (CLD), presented to a tertiary level Intensive Care Unit from a district hospital with Endotracheal tube in situ having the history of severe respiratory distress for four days with sudden onset of stridor followed by cardiac arrest twice with Return of Spontaneous Circulation (ROSC).

Patient's complaints started with cough with chest tightness on earlier May, 2022. At that time, she consulted with a local general physician who screened her all cardiac investigations including echocardiogram which was perfect as per age and sex. Approximately after 10 days

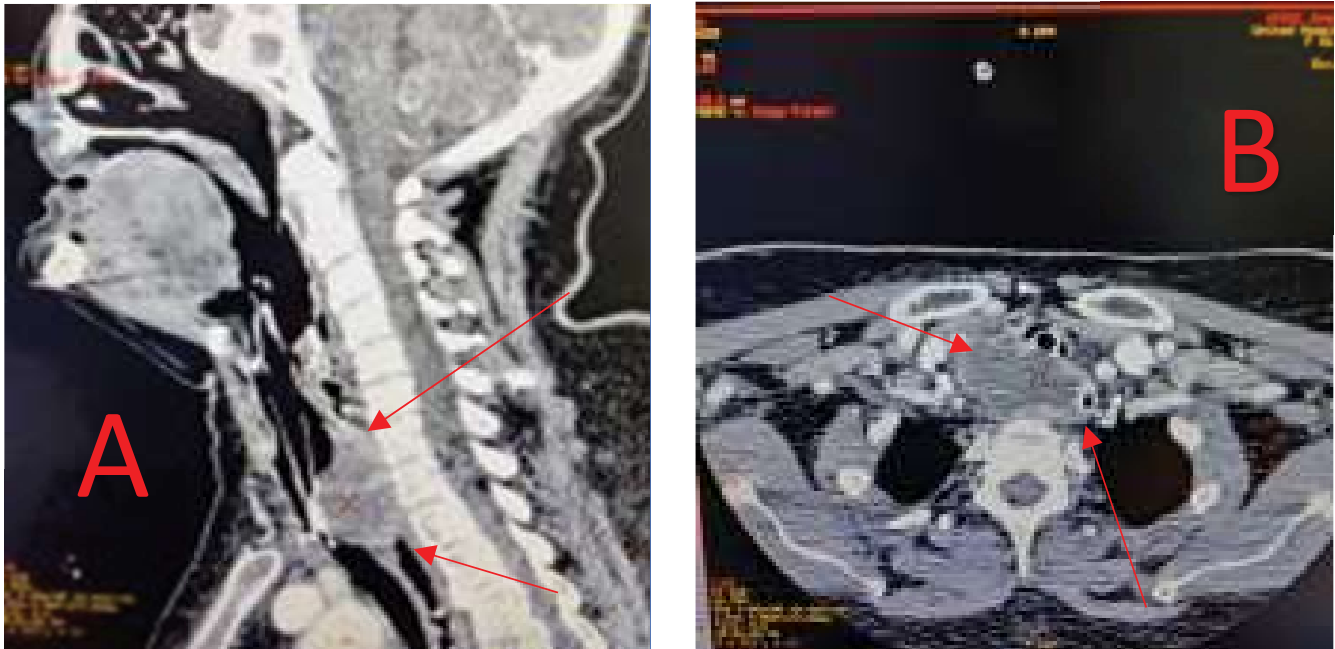


Fig-1: CT scan of Neck shows a mixed density mass compressing the trachea from back with almost complete occlusion of the airway and partial obstruction of the esophagus [Panel A - Lateral view, Panel B- Axial view]

patient developed cough with occasional shortness of breath for which an HRCT chest done on outdoor basis. It showed a mass behind the trachea which was completely overlooked, and patient was being treated as a case of respiratory tract infection. On 2nd June, 2022 patient develop severe respiratory distress associated with chest pain as well as abnormal respiratory sound. Patient was immediately rushed to a local hospital where she had cardiac arrest twice with ROSC. After that she was shifted to a tertiary care hospital with endotracheal tube in situ for further management.

On query, patient's son denied of any history of fever, previous cough or shortness of breath, any sort of difficulty or pain during deglutition (applicable for both liquid and solid food), loss of appetite, burning sensation in chest, neck pain or swelling, weight loss. Moreover, she wasn't a betel nut or tobacco leaf chewer. On physical examination during admission, patient was conscious, oriented to time, place and person. She wasn't anaemic, there wasn't any palpable lymph node, palpable neck swelling and trachea wasn't deviated. Other systemic examination revealed no abnormality. She had central venous line, endotracheal tube and urinary catheter in situ. After admission, patient was again thoroughly investigated to rule out the cause of cardiac arrest and was being treated as a case of Non-ST Elevated Myocardial Infarction (NSTEMI) and combined cardiogenic and septic shock.

CT neck with contrast revealed mixed density lesion in pre and right paravertebral location at C7 to D2 levels, that compressed and invade the posterior wall of trachea causing significant narrowing of adjacent airway, as well as esophagus was compressed and displaced towards left. Initially it was suspected to be a mediastinal tumour compressing trachea.

CT guided FNAC (Fine Needle Aspiration Cytology) of that mixed density neck mass was done and histopathology was suggestive of

metastatic squamous cell carcinoma inconclusive of the tissue origin.

To find out the primary site, as patient had history of cough and occasional shortness of breath, bronchoscopy was approached first, which showed highly inflamed mucosa without any visible growth or vocal cord palsy but a small flap like segment on the right side of the trachea.

Bronchoscopic biopsy of that flap done and histopathology showed tiny fragments of bronchial tissue lined by pseudostratified ciliated columnar epithelial cells without any malignant cell.

Endoscopy was the next, which revealed polypoid growth on the posterior wall of esophagus from 25 to 30 cm from the teeth line. Endoscopic biopsy done and histopathology of the tissue revealed poorly differentiated squamous cell carcinoma of esophagus.

Meanwhile after hemodynamic stabilization and improvement of sepsis patient was extubated. But reintubation required for stridor. Subsequently patient underwent tracheostomy and after stabilization shifted under care of oncology for further definitive oncological management.

DISCUSSION:

Stridor and/or respiratory symptoms in a patient alarms physician as stridor is an acute emergency indicating significant extrathoracic or intrathoracic upper airway obstruction. Etiology could be of wide variety according to age, disease process or manner of onset. A review article shows malignant central airway obstruction can be of different etiology, lung cancer (54.08%), esophageal cancer (22.45%), and thyroid cancer (3.06%) are being the leading causes.³

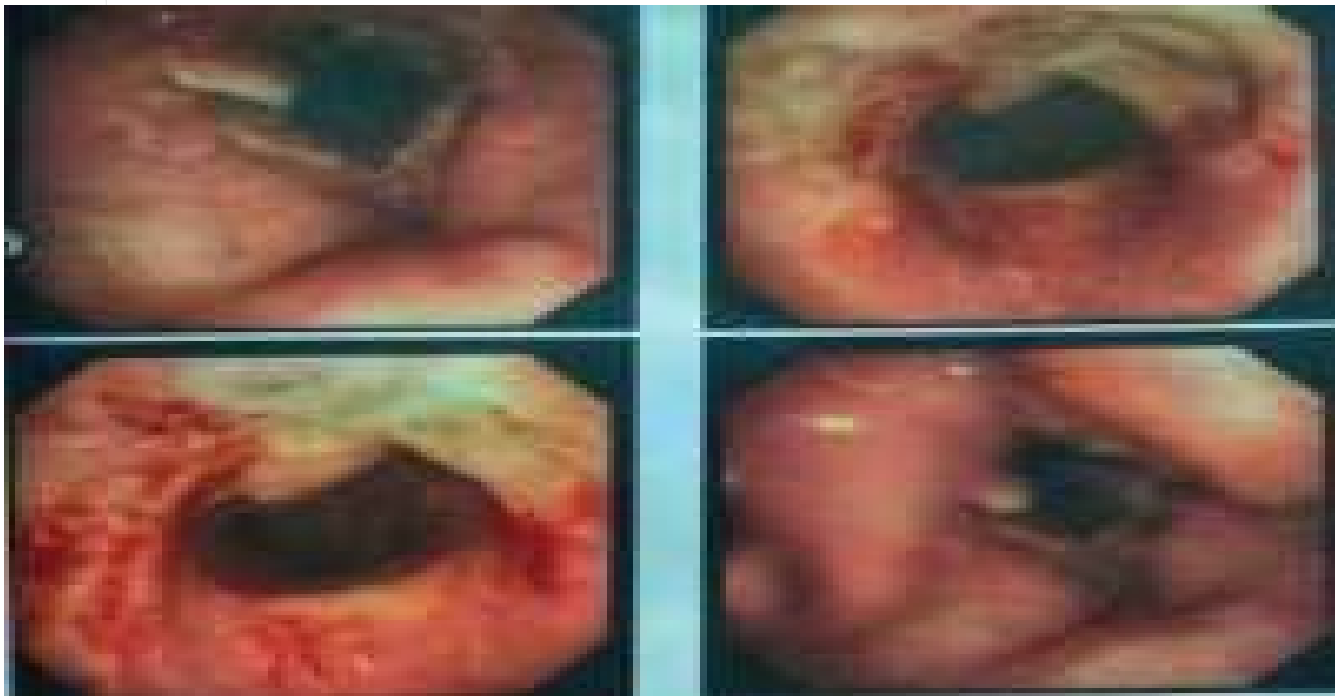


Fig- 2 : Bronchoscopy of the patient showing highly inflamed bronchial mucosa



Fig- 3 : Endoscopy showing polypoid growth

A literature review by Maweni et al on Thoracic esophageal carcinoma revealed, after stridor all patients present with dyspnea. After that dysphagia was the second common symptom, however sole stridor was not exclusively mentioned.⁴ The case we presented here had acute onset of stridor with very short history of shortness breath and occasional cough for one month. There was no history of dysphagia, any sort of dyspepsia, loss of appetite or loss of weight.

This patient had sudden onset of stridor and just after admission she developed cardiac arrest which could be the effect of total or near total obstruction of upper airway leading to hypoxia that causes supply demand mismatch of oxygen to cardiac tissue. Immediate intervention by ET tube insertion along with resuscitation as per ACLS protocol could revive the patient. The patients who do not get any benefit after tracheostomy or crico-thyroidotomy in case of complete central airway obstruction, may be benefited with veno-venous or veno-arterial ECMO as a bridge or supporting management.⁵ In our patient ET tube intubation followed by tracheostomy was enough to reverse her airway obstruction.

Airway stenting could be an option for acute airway management if the site of growth is below the tracheostomy site or there is tracheoesophageal fistula. Dual (combined airway and esophageal) stenting could be an option in selected cases keeping the possibility of complication in mind.^{6,7} As our patient did not have any bronchial growth seen by bronchoscopy, tracheostomy was enough to maintain her airway.

CT scan of neck of the lady showed a mixed density lesion (4.6cm×3.5cm×5.0cm) in the mediastinum extending from C7 to D2 level and endoscopy showed a polypoid growth in the esophagus, 25- 30 cm from the teeth line. Both indicate the esophageal carcinoma to be involving middle esophagus.

Middle esophagus is in close proximity to the airway and any growth or tumour at this location carries great morbidity and requires airway interventions.^{6,8} Probably this is the cause why this patient presented only with respiratory symptoms.

Unfortunately, the finding of a growth in the neck in the initial CT scan of chest of this patient (done on outdoor basis) was overlooked by the general physician.

Initially it was thought to be a mediastinal mass as per CT neck with contrast done in our hospital. But histopathology report of the FNAC of the growth revealed squamous cell carcinoma which pointed toward either respiratory or esophageal origin. As patient had only respiratory symptoms, we decided to do the bronchoscopy first and it showed only inflammatory lesion which forced us to go for endoscopy, and the endoscopic finding was the guide to the definitive diagnosis.

A very few case reports are there, that presented patients with stridor in patients with esophageal carcinoma. Apart from respiratory symptoms, most of them had dysphagia or previous history of esophageal or thoracic carcinoma, and/ or risk factor for esophageal cancer or weight loss.⁵⁻⁸ In our patient there was no such symptoms or history apart from stridor or dyspnea and no risk factor other than age. It emphasizes the physician to be vigilant about excluding any esophageal carcinoma in any patient who presents with stridor with or without cough and/or dyspnea.

CONCLUSION:

Stridor is a sign that must be addressed and properly investigated to find out the cause when there is no visible local finding in oropharynx or laryngopharynx or trachea. Esophageal carcinoma may present with stridor other than it's usual presentation due to mass effect to upper airway and just like this case stridor and respiratory distress might be the only presentation. Clinician should always have high index of suspicion of carcinoma of esophagus in an elderly patient presenting with stridor.

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