

The Days of COVID-19, Nothing Else Seems to Matter

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ABSTRACT

Introduction: In the cacophony of COVID-19 pandemic, every symptom looks as if a covid symptom. Our brains are numbed by the unprecedented spread of SARS n CoV-2 viral infections in society. As emergency physicians, we are the frontline warriors to assess and triage the patients as soon as they reach the hospital. The concern for the numerous challenges we face is reasonable but it shouldn't consume our cognitive thinking.

Case report: We present to the readers a patient who had clinical presentation consistent with COVID-19 but the real diagnosis was very different. A displaced nasogastric tube into mediastinum hinted to us the diagnosis.

Conclusion: A protective yet investigative approach, safe and expedient delivery of healthcare services is the need of hour in these challenging times.

Keywords: COVID-19, Esophageal Cancer, Dysphagia.

INTRODUCTION

Esophageal cancers normally present with insidious onset of progressive dysphagia. Odynophagia, shortness of breath, nausea, vomiting altered bowel habits and hematemesis are indications of late stage of disease. As the patient often finds difficulty in swallowing of food, this cancer is often detected early. We also want to bring to the notice of our readers that though the viral disease has high infectivity, we cannot turn back every patient reaching to the emergency door. The best way is to stay prepared with personal protection equipment (PPE) kits (bodysuit, head wrap, goggles and gloves), N95 masks, airway intubation box, video laryngoscope, HME filters and dedicated ventilators for pandemic.

CASE REPORT

A 54 year old male presented in gasping state to our emergency department. Immediately, covid protocol was alerted by the security guard by pressing the emergency bell. The patient was attended outside in the ambulance by the emergency technician who was donned with PPE. He could feel the central pulse. The radial pulse was not felt. Patient was wheeled inside on the trolley marked for covid suspects into the covid triage. The emergency physician, nurse and the technician present there are always donned. Resuscitation was initiated with airway control. Using the COVID-NIMS intubation protocol, patient was intubated with ET tube size 8.0 OD and connected to mechanical ventilator with tidal volume 350ml, respiratory rate 14 and 100% O₂. Two HME filters were placed in the circuitry- one at distal end of ET tube and other at expiratory port of ventilator. The orogastric tube was positioned simultaneously as this procedure is also aerosol generating and needs to be performed in a

paralysed patient, if possible. The history simultaneously was being enquired by another postgraduate resident positioned outside covid triage from the relatives. The duration of entire illness was of one day. He had 4 episodes of non-bloody diarrhea, multiple episodes of vomitings and severe pain in right hypochondria. The vomitus did not contain bile or frank blood, had no link to food intake and did not respond to oral antiemetic, ondansetron. The post intubation vitals were HR 160 per min, SBP 60 mmHg and SpO₂ probe was not picking signals. He was a thin built man. The capillary blood sugar was 166mg/dl. The ECG was suggestive of supraventricular tachycardia at a rate of 160. (Figure 1). The rhythm was unstable and hence urgent cardioversion was done to revert to sinus rhythm. Arterial blood analysis was suggestive of high anion gap metabolic acidosis (pH-6.9 and lactates - 17mmol/l). We have a dedicated EM sonography protocol. A linear probe with cling film covered for point of care ultrasound (POCUS) is used in covid suspects. The inferior vena cava was collapsing suggesting fluid boluses 10 ml/kg. He was also initiated on noradrenaline infusion at 15 ug/kg/hour. The POCUS also suggested gross right pleural effusion with minimal pneumothorax. It was decided to place intercostal drainage tube size 36 F in right 5th intercostal space anterior to mid axillary line and ensure it passes posteriorly. Before that, we wanted his chest radiograph to check the position of our ET tube and ryle's tube. (Figure 2) depicts the chest x-ray which was showing the Ryle's tube in right bronchus. Repeat video laryngoscopy showed that the Ryle's tube has passed in esophageal opening only. This alerted us to further investigate the patient but before that, under covid protocol ICD was placed and connected to the underwater seal bag. The collection in Ryle's bag was same in color and looked exactly as the ICD bag. (Figure 3a&b). The patient was sick and did not show improvement in hemodynamics and oxygenation after 6 hours of low tidal volume ventilation with low PEEP and high FiO₂. He was

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started on vasopressin infusion at 20ug/min. Pulmonologist and medical gastroenterologist was consulted on further treatment of patient.

In covid hours, admissions from emergency room are getting delayed. Every department wants to be sure of the covid status of patient before accepting transfer. We are a tertiary referral institute and have 2 EM critical care units, one of which we have dedicated to covid suspects. The radiologist reviewed the chest x-ray and asked for a contrast enhanced CT scan. He was suspecting a breach in esophageal wall. His provisional diagnosis was esophageal cancer with infiltration into mediastinal pleura and right bronchus. It was a difficult decision to send an unstable patient to CT scanner. We discussed the possibility of periprocedural arrest with attendants. We provided them the information they needed and got their signatures accepting the risk of CT scan chest. The scan room was prepared with new infusion pumps loaded with medications and strict covid protocol was followed. The shift workers, radiology technician and emergency technician were donned with level 1 PPE, N95 mask and face shields. The patient was shifted covered with a plastic sheet and with 2 filters next to ET tube and AMBU resuscitator with O₂ cylinder. The expiratory port of AMBU was attached to a plastic corrugated tube and a loose big XXL size plastic bag covered the distal end of tube. The flows from cylinder were kept at 8 litres per minute. The scan period (10 minutes) was uneventful. The films cleared our



Figure-3: Ryle's tube aspirate (Urobag attached to tube) and pleural drainage fluid (ICD bag) showing altered blood.

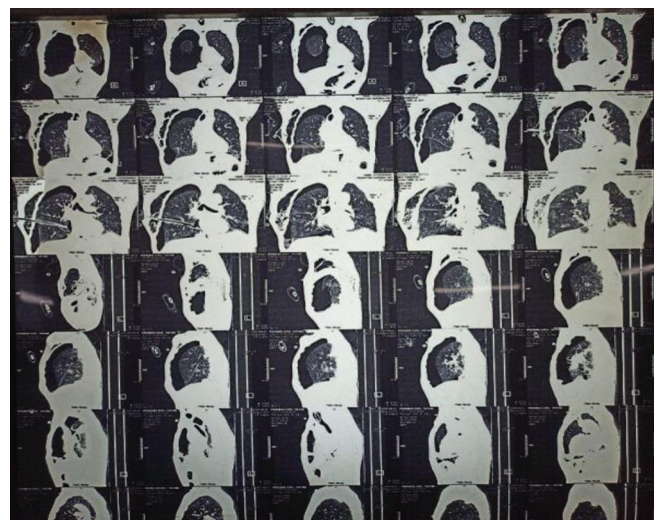


Figure-4: CT scan chest of the patient

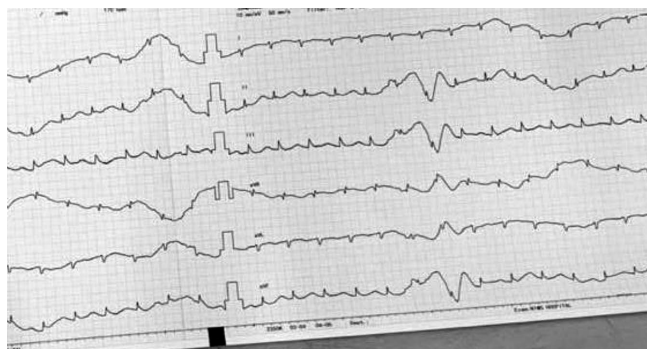


Figure-1: ECGs of patient before and after cardioversion.

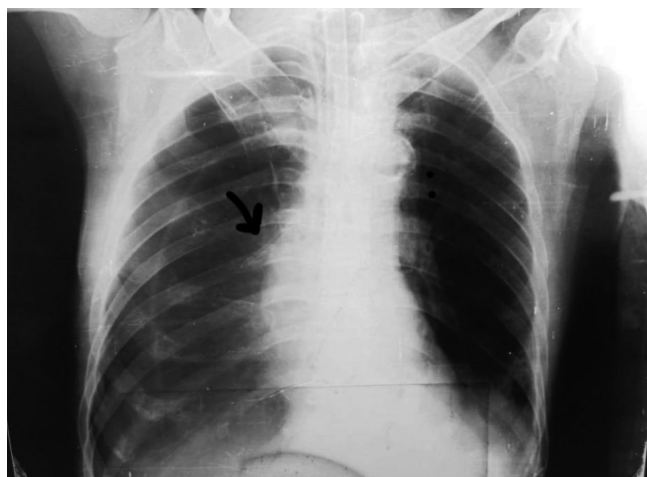


Figure-2: Chest radiograph with distal end of Ryle's tube in right pleural cavity. Right pneumothorax is also seen.

doubt. Our patient was suffering from a highly malignant and necrotic esophageal growth seen as diffuse circumferential wall thickening of entire esophagus with suspicious air pocket in perigastric region with multiple septations within, appearsto be communicating with fundus of stomach and bilateral hydro-pneumothorax (Figure 4).

DISCUSSION

This case is important to highlight 3 very pertinent issues in covid times- team preparedness, closing the loop by confirming the diagnosis and empathy towards patient attendants.

Team preparedness was guaranteed by our institute emergency covid protocol. From 31st January 2020, when the first case of corona pandemic tested positive, we had serial meetings amongst the emergency physicians, hospital administration, general medicine, anesthesiologists and pulmonologist. The first step was to nominate an associate professor from the department of hospital administration as nodal officer. A list of symptoms (modified later dated 17.04.2020, re-modified 21.04.2020) was created as Google doc available at <http://forms.gle/szYeoic4SDfFDnQq6> and it was made mandatory for the covid triage officer to fill it before taking the patient inside. We have already discussed our covid triage entry rules

above. The medical establishments who cannot afford or are unable to procure PPE should be very cautious in managing the suspects. The best policy should enforce to prevent the spread of virus to HCW. An asymptomatic HCW can spread the disease to many people.

It is very important to look for diagnosis and to prove whether it is covid related or unrelated. In most of the cases, patients who are being labelled as suspects are diverted to covid hospitals where the physicians are working on a single protocol for covid treatment. We should be empathetic towards our own colleagues working in covid hospitals and share the work load as much as possible. In the present case, we had a suspicion of covid gastrointestinal and cardiovascular symptomatology and a very short duration of illness but as he was not in a state to be shifted, we had resuscitated him in our covid triage. We investigated him and ruled out lymphopenia, thrombocytopenia and raised alanine aminotransferase. The kidney function tests were deranged with serum creatinine at 3.6 mg/dl.

The most common arrhythmia overall in patients with COVID-19 is sinus tachycardia, but the most likely pathologic arrhythmias include atrial fibrillation, atrial flutter, and monomorphic or polymorphic VT. As noted in the cohort from Hubei province, 7.3 percent reported palpitations as a presenting symptom.^{1,2} Other patients in whom arrhythmias may be seen include the following:

Patients who present with other cardiovascular complications in the setting of COVID-19 infection, such as myocardial injury or myocardial ischemia.³

Patients with hypoxia, shock (septic or cardiogenic), or evidence of widespread systemic inflammation.⁴

Patients with electrolyte disturbances (eg, hypokalemia) that predispose to the development of arrhythmias.⁵

Patients who are receiving QT-prolonging therapies and who may develop polymorphic ventricular tachycardia.⁶

Patients with fever, which can unmask cases of cardiac channelopathies such as Brugada syndrome and long QT syndrome.⁷

There are case reports of infiltration of respiratory tract by esophageal cancers.⁸ However, these cases were either identified early based on symptomatology or presented with fistulous complications post surgical resection.⁹ The sudden diagnosis of advanced stage of esophageal carcinoma is rare. It is very important to understand the psychology of patient attendants in the disaster times.¹⁰ On one hand, they have fear of being infected while on the other hand, they are worried of the health and outcome of their patient. Taking them into confidence, discussing the covid related problems with them while maintaining social distancing can prevent arguments and fights in ED.

CONCLUSION

The case is an example of uncommon presentation with an ultra short duration of history of advanced esophageal cancer. Presence of supraventricular arrhythmias and hypotension resistant to vasopressors were the symptoms consistent with covid morphology. A protective yet investigative approach,

safe and expedient delivery of healthcare services is the need of hour in these challenging times. We lost our patient the same night to fatal hematemesis, aspiration, resistive hypoxia and hypotension leading to cardiorespiratory arrest. We had collected his nasopharyngeal swab for RT-PCR 4 hours before he died which later turned out to be negative.

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