

Defecation Syncope: A Rare Manifestation in Covid Patients

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ABSTRACT

Introduction: Physical activity leads to raised oxygen demand. This causes desaturation in patients with moderate to severe ARDS.

Case Report: A 65yr/M was admitted complaining of breathlessness, cough and fever. RT-PCR was positive, inflammatory markers raised and HRCT Thorax consistent with covid findings. The patient was a known hypertensive taking Tab. Telmisartan (40mg). He had received 1st dose of Covishield vaccine. Treatment was initiated according to covid protocol. Oxygen therapy via NRB mask at 10-15 litres was started and saturation maintained at 90-95%. On 9th day of admission, pt's. saturation fell to 77%, while defecating. Subsequently, similar episodes were noted. Saturation fell to 55% transiently prompting BiPAP intervention. On Day 12 a severe episode of desaturation was noted but patient improved, without needing intubation. Diagnosis of Defecation Syncope was made.

Discussion: Defecation Syncope (DS) is a parasympathetic response to the exerted pressure on the rectum and diaphragm, and closure of the epiglottis during defecation. Initially there is rise in BP and bradycardia, then rapid fall in BP leading to decreased cerebral perfusion causing syncope. Secondly, raised intra-abdominal pressure causes the diaphragm to exert greater pressure on the thoracic cavity. A (V/Q) mismatch causes hypoxia and desaturation in such patients. Constipation predisposes to DS.

Conclusion: While these patients perform voiding activity, adequate fluid therapy should be initiated. Oxygen flow should be increased. Laxatives should be used judiciously. Emergency trolley should be kept on standby. Occasionally, such patients may have fatal outcomes. Patients should be under vigilance of healthcare providers.

Keywords: Defecation Syncope, Manifestation, Covid Patients

INTRODUCTION

Oxygen demand increases with increase in physical activity. Even routine activities like micturition, defaecation, positioning one's self from prone to supine may precipitate a raise in oxygen demand. In some patients of covid this has been a cause of concern due to adverse outcomes.

CASE PRESENTATION

Case in consideration is that of a 65yr/M weighing 64kg and BMI of 22.8 kg/M² presented to medical emergency with chief complaints of difficulty in breathing, fever and dry cough since, 3-4 days, admitted on 14/05/2021. He was a known hypertensive on Tab. Telmisartan (40mg) and Tab. Amlodipine (5mg) since 20 yrs. and was well controlled. No other co-morbidities were reported. He was vaccinated with

1st dose of Covishield vaccine 20 days back. His RT-PCR report was positive with an HRCT severity score of 15/25 and CORADS-5.

- His inflammatory markers namely S.Ferritin- 1650 ng/ml
S. D-dimer- 3.01 ug/ml
S. IL-6 - 881 pg/ml
CRP - 7.47 mg/L
were raised.

On Examination his vitals at the time of admission were as follows:

Pulse- 118/min, BP-136/88 mmhg, SpO₂- 91% on 10-12 litres of O₂ support on NRB Mask, Respiratory rate-38-40/min. His SpO₂ was 68% on room air. Pt. was conscious and oriented to verbal commands with a GCS- E₄V₅M₆. Subsequently he was shifted to Covid ICU for treatment and monitoring from the medical emergency.

- His treatment included:
Inj. Imipenem (1gm)
Inj. Targocid (400mg)
Inj. Remdesivir (200mg) on Day 1 & 100mg for 5 days
- subsequently
Inj. Tocilizumab (400mg),
Inj. Solumedrol (40mg),
Inj. Clexane (0.4mg) s.c.

in accordance with covid guidelines along with other supportive drugs.

Pt. was put on Non-rebreathing mask (NRBM) on approximately 10-15 litres of oxygen.

An ABG was done which was suggestive of type-1 respiratory failure.

Intermittent BiPAP support was later initiated after assessing pts. clinical condition and managed with the help of ABG.

On Day 2 the pt. was assessed and modality of oxygen therapy was changed to intermittent BiPAP with similar settings. The

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FiO₂ was gradually tapered when pt. stabilized and NRB Mask was used subsequently. Nebulization with Budesonid and Levosalbutamol was gradually initiated. ABG was repeated and indicative of type-1 respiratory failure. Oral Feeding commenced and was well supported by NRB Mask. When on NRB Mask pt. was encouraged to lie in prone position thereby relieving his air hunger and decreasing his work of breathing. Chest-x- ray PA view was done along with blood investigations.

Subsequently incentive spirometry was initiated after evaluating pt's. response to treatment. On 7th day of his admission, it was noted that his saturation fell, whilst defaecating with vitals-

Pulse-134/mins

BP143/89mmhg

SpO₂- 77%.

This prompted increasing the oxygen flow rate from 10 litres/min to 15 litres/min. The pt. responded to oxygen therapy and saturation was noted to be >90%. Subsequently such episodes were noted again in proceeding days. Each time prompting an increased oxygen requirement. On 12th day of his ICU stay the patient had a rather severe episode of desaturation. Pt. defecated and his SpO₂ fell to 53% and up rolling of eye balls was noted, prompting increasing the flow of oxygen to the pt. on NRB Mask from 8ltrs/min to 15ltrs/min and subsequently BiPAP support. Crash cart was readied for need.

Vitals were:

Pulse-134/min

BP- 141/92mmhg.

However, the pt. responded to management with increasing SpO₂ with regain of consciousness and no further intervention was necessary.

Vitals were as follows:

Pulse- 108/min

BP- 98/71mmhg.

Later an ABG was done showing no respiratory acidosis or CO₂ retention. After this episode adequate measures were put on standby before pt. defaecated. This involved readying of BiPAP and HFNC therapy devices. Thereafter laxative syp. Cremaffin was added and his fluid intake closely monitored to maintain adequate hydration.

After 22 days of ICU stay pt. was shifted to an alternative non-covid facility as per attendants request after he tested negative RT-PCR on 05/06/2021.

DISCUSSION

When a patient exerts pressure on his rectum to defecate or urinate it causes a raised intra-abdominal pressure. This is aided by closing of the epiglottis and tightening of diaphragm. This initiates a parasympathetic response. This initially leads to bradycardia with hypertension followed by hypotension. This causes decreased cerebral perfusion leading to loss of consciousness. Alternatively, the raised intra-abdominal pressure causes rising of diaphragm leading to increase in intra-thoracic pressure. This causes a Ventilation/Perfusion (V/Q) ratio mis-match. It is well known fact that pts. of

ARDS have poor pulmonary reserves. Due to this, pts. are unable to tolerate resultant hypoxic injury resulting in desaturation of the pt. Other manifestations of this syndrome include cardiac arrhythmia leading to acute onset ischemic events and stroke. Review of Literature suggests catastrophic outcomes prompting CPR initiation and being fatal in certain incidences. These findings were noted in different age groups and no gender preponderance was noted. The risk factors contributing to ARDS in covid patients are: Constipation is known risk factor of this syndrome. Difficulty in urination due to bladder outflow obstruction.

Diagnosing any underlying disorder such as Hypothyroidism, Diabetes Mellitus, Panhypopituitarism, Systemic Lupus Erythematosus.

CONCLUSION:

While defaecation syncope is a rare occurrence, the treating physician should be observant and should try to identify at risk pts. or pts. showing such symptoms. Healthcare providers such as nurses and doctors from other specialities under whom these patients may be in ICU should be educated and sensitized about this condition and that such patients should not be left unattended during voiding activities. Suitable modifications in the approach towards such patients should be made. While performing voiding activity, adequate fluid therapy should be initiated. Oxygen flow should be increased. Laxatives should be used judiciously. Patients should be preemptively catheterized and judicious use of laxatives should be initiated. Emergency trolley should be kept on standby. Occasionally, such patients may have fatal outcomes and patient's relatives should be counselled in this regard.

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