

Psychological ventilator dependence: A case report

Harshal Sathe, Nilesh Shah, Avinash De Sousa

Abstract

Weaning a patient off mechanical ventilation, especially when they have been dependent on it for a long time, can be a difficult task. Many physical and psychological factors contribute towards dependence on the ventilator. We re-

port a case of a 28-year-old female patient that developed anxiety and a psychological dependence on the ventilator thereby making weaning off difficult. Timely psychiatric intervention resulted in successful weaning off the ventilator.

Key words: Weaning, mechanical ventilation, psychological dependence.

Introduction

Patients admitted to critical care unit and on mechanical ventilation usually have severe medical illnesses and weaning a patient off this assisted ventilation once the illness recovers is often a complex process. (1) Patients who have been on mechanical ventilation may develop a physical and psychological dependency on the ventilation process and weaning may become difficult. This is in keeping with various factors like age, level of emotional and cognitive function, past history of psychological problems, cultural issues, fear and a sense of degradation physically that develops. (2) Patients on mechanical ventilation often show multiple complications due to polypharmacology, sleep disruptions and cognitive deficits in orientation, short and long term memory, language and reasoning that may develop in as many as 1 in 5 cases. (3) Good support of the relatives and family members along with proper communication and reassurance by the treating doctor is instrumental in successful removal of mechanical ventilation once the patient is better. (4) Psychiatric comorbidity is very high in this population and up to 52% of these cases may have delirium as well as 30-40% show symptoms of anxiety, depression and psy-

chological distress. (5) We present herewith a case of a 28-year-old female patient admitted to the intensive care unit of our hospital and was on mechanical ventilation, but developed complications in the weaning off phase which on careful analysis turned out to be purely psychological in nature.

Case report

A 28-year-old female patient who had a road traffic accident on a bike was admitted to a private trauma centre. She was put on the ventilator due to difficulty in breathing. She was on full assisted breathing mode (volume AC mode) and also on supportive management. Gradually over 30 days as her arterial blood gas (ABG) parameters normalized she was weaned to SIMV mode (Synchronized Intermittent Mandatory Ventilation mode) and then to CPAP (Continuous Positive Airway Pressure mode) where she could breathe spontaneously. The intensivist's plan of action was to remove ventilator support thereafter as her ABG stats were normalized and put her on the T-piece. But the moment the ventilator tube was removed she started hyperventilating and violently shaking with intense chest and abdominal movements, which would give the intensive care specialist a feeling that the patient had breathlessness and they would put her again on the ventilator support. This continued for about 10 days and on noticing that the doctors were unable to wean her successfully, her relatives decided to shift her to the intensive care unit at our hospital. She was admitted to intensive care ward where the same attempts of weaning her off the ventilator were made but any such attempt would be unsuccessful. The doctors suspected that the patient was developing a psy-

From Department of Psychiatry, Lokmanya Tilak Municipal Medical College, Mumbai, India (Harshal Sathe, Nilesh Shah, and Avinash De Sousa).

Address for correspondence:

Dr. Avinash De Sousa
Carmel, 18, St. Francis Road, Off SV Road, Santacruz West,
Mumbai 400054, India
Tel: 91-22-26482869
Email: avinashdes888@gmail.com

chological dependence on the ventilator and hence sought a psychiatry referral.

On detailed history from the patient's husband there was no evidence that would suggest any psychiatric illness in the patient in the past. There was a history suggesting that she was highly emotional and sensitive in nature and would easily get affected if anyone said anything to her or shouted at her. She was emotional and would easily cry when she saw emotional scenes in a movie or on television. There was no history suggestive of any anxiety, panic, or depressive disorder prior to the road traffic accident. No family history of any psychiatric illness was elicited either. On a detailed mental status examination, the patient was lying on the bed, intubated with ventilator support and was conscious, restless and had an anxious appearance. When asked about her health she demonstrated fearfulness saying that she would never recover. She was intubated so she could not talk too many details could not be examined. It was suspected that she could be having anxiety due to weaning off the ventilator. At the time of examining her, she had been for 32 days on the ventilator. She was prescribed escitalopram 10 mg in divided doses and alprazolam 1 mg in divided doses and the physicians were requested to continue their line of management of trying to wean her off. The tablets were started in view of her anxiousness and fear. She was given the tablets in the powdered form through a Ryle's tube. It was noticed by the husband that she became much calmer after starting the medicines and also slept better than before. Five days post medication, she was successfully weaned off the ventilator and put on the T-piece. She was advised to continue with the doses of psychiatric medications and was advised regular fol-

low up in psychiatry OPD post discharge. The patient recovered fully and the medicines were tapered in a 6-month period following her discharge.

Discussion

It is well known that patients on mechanical ventilation develop a psychological dependence to it. This is due to a loss of breathing pattern control, lack of motivation and confidence, delirium that has occurred and severity and nature of the trauma and the shock that ensues. The duration of intensive care, ventilator support and other chronic medical illnesses are other factors in this regard. (6,7) It has been noted by researchers that while there are no strict clinical or predictive criteria to determine psychological ventilator dependence, one must keep it in mind when the patient has been on psychiatric treatment or a past history suggestive of psychiatric illness is present. (8) In our patient there was no major medical illness except for the accidental trauma that she underwent and no history of psychiatric comorbidity was demonstrated either. However she showed a rapid improvement in her anxiousness after being for 5 days on psychiatric medication and weaning off mechanical ventilation that was difficult and unaccomplished prior was easily and successfully completed. Critical care specialists are aware that weaning off a mechanical ventilator is a team effort with the critical care physician, nursing staff, chest physician, occupational and physiotherapist along with speech therapist being members of such a team. A counselor may be needed to garner the support of the patient and family members while at times a psychiatry referral may be needed if psychological symptoms prevent successful ventilator weaning and when all physical causes have been ruled out.

References

1. Clark K. Psychosocial aspects of prolonged ventilator dependency. *Respir Care* 1986;31:329-33.
2. Criner GJ, Isaac L. Psychological problems in the ventilator-dependent patient. *Clin Pulm Med* 1994;1:47-57.
3. Krachman SL, D'Alonzo GE, Criner GJ. Sleep in the intensive care unit. *Chest* 1995;107:1713-20.
4. Chatila WM, Criner GJ. Complications of long-term mechanical ventilation. *Respir Care Clin N Am* 2002;8:631-47.
5. Isaac L, Hungerpillar J, Criner GJ. Neurophysiologic deficits in chronic ventilator-dependent patients. *Chest* 1989;96:255S.
6. Mendel JG, Khan FA. Psychological aspects of weaning from mechanical ventilation. *Psychosomatics* 1980;21:465-71.
7. McDonald ER, Hillel A, Wiedenfeld SA. Evaluation of psychological status of ventilator-supported patients with ALS/MND. *Palliat Med* 1996;10:35-41.
8. Stacy KM. Withdrawal of life-sustaining treatment: a case study. *Crit Care Nurs* 2012;32:14-24.