Withdrawal of Mechanical Ventilation in the Neonate/ Pediatric Patient

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 The process of mechanical ventilation is considered as a key method of innovative life sustenance in the Emergency Unit (Munson, 2007). However, some extremely ill patients that receive mechanical ventilation recover successfully. Several others either die still using it or they are ultimately left to wait for their death by withdrawing the process of mechanical ventilation. In a medical setting, withdrawal of this form of sustenance is a usual practice which leaves patient expecting his death (Burns et al., 2000). Studies suggest that the factors that influence the physician's decision to withdraw mechanical ventilation include the severity of patient's disease, chronic problems associated with the disease, patient's age, patient's desires, and the future quality of life. Moreover, it is also established that physicians might withdraw the interventions that are aggressive and costly if the condition of the patient does not seem to improve. Interventions that are associated with physician specialization, often become the reason for the physician’s decision of withdrawing the mechanical ventilation (Medford, 2003).

Studies state that it is understood that withdrawal practice affects the patient in many ways, however, family suffers from another kind of pain (Newborn, 2007). However, if we talk about the withdrawal of mechanical ventilation in neonatal or pediatric patients, the practice seems to effect parents more than the patient. Many physicians believe that it is important to support the family in this critical time so they do not think they are being abandoned (Munson, 2007). Although some families want privacy, it is the responsibility of clinicians to ensure that families are provided with their required needs. It is important that physicians daily inform the family and relatives about the patient’s health and condition daily. However, in some case, it is reported that the family may decide to discontinue the mechanical ventilation due to the increasing financial burden. This mainly happens in the cases, when the patient is receives artificial life support for a very long time and shows no positive signs of improvement. Studies evidently suggest that the decision of this practice is influenced either by physicians, family or the patient himself (Medford, 2003).

In the neonatal care unit, discontinuing the ventilator intervention poses serious ethical challenges (Rubenfeld, 2004). The major ethical concern is the patient’s hunger for air leading to severe breathing discomfort. Even after the withdrawal of mechanical ventilation, doctors and nurses are responsible to provide comfort to the patients by trying to manage the symptoms of distress the patients experience during their death. One approach to relieve this discomfort is the use of narcotics (Rubenfeld, 2004). Studies indicate that there is a dilemma among the physicians regarding the use of narcotics to soothe the symptoms of discomfort after the withdrawal of intervention (Munson, 2007). Some physicians believe that it immediately brings death to their patients and they blame themselves for it while other states that it does not shorten time to death but instead it aggravates it. This is mainly a two concept approach where the former is known as a “double effect”. It is established that lower doses of narcotics such as fentanyl, morphine and hydromorphone, may contribute to the purpose of relieving the symptoms experienced at the end of the death. However, if large doses of these substances are used, it aggravates the time to death with further increasing the respiratory distress and hunger for air because of its side effects. It is more often observed in adult patients who are given large doses of benzodiazepines (Burns et al., 2000).

In Pediatrics research, the mechanism to discontinue mechanical ventilation is hardly presented. However, one research states that there are two main approaches to withdraw ventilator off a patient: Terminal Weaning and Terminal Extubation (Munson, 2007). Gradually reducing the ventilator support before extubation is called as a “terminal weaning” while “terminal extubation” is characterized as the removal of endotracheal pipe without dissuading ventilator sustenance. Physicians predict both approaches are rather unclear considering the merits and demerits. However, terminal weaning is prioritized over terminal extubation because physicians believe they get enough time to prepare sedation medication to ease the symptoms patient experience at the end of the death (Rubenfeld, 2004). Another reason why physicians think it is better than the terminal extubation is that it provides the necessary time for the family to deal with the death and often say goodbye to their patient (Rubenfeld, 2004). In the neonatal Intensive Care Unit, this approach may allow parents to hold their baby in the time the physician prepares a sedation medicine. Moreover, with a progressive decline of oxygen and elevation in carbon dioxide, the patient is more likely to experience sedation. However, the side effect of this approach is that it prolongs the dying process which ultimately increases the time of the patient's suffering (Munson, 2007). It is reported that the approach also affects the family due to the prolonged time of death which increases the anxiety among the family in a case where the family has already accepted the fate of their patient. Some physicians give solution to this problem by suggesting a shift of terminal weaning to terminal extubation right after the medication has been titrated. It will accomplish the main purpose of sparing the patient with the suffering of prolonged death (Rubenfeld, 2004).

Withdrawing advanced life support interventions in a medical setting depends upon the wide range of concepts and resources in order to effectively provide the required care. By adopting certain practices of effective communication and management at the time of withdrawal, paediatricians can improve the care provided to the patient and their families at the time of death.

References

Burns, J. P., Mitchell, C., Outwater, K. M., Geller, M., Griffith, J. L., Todres, I. D., & Truog, R. D. (2000). End-of-life care in the pediatric intensive care unit after the forgoing of life-sustaining treatment. *Critical Care Medicine*, *28*(8), 3060–3066. https://doi.org/10.1097/00003246-200008000-00064

Medford, A. R. L. (2003). Factors associated with physicians’ decisions to withdraw mechanical ventilation in anticipation of death. *Thorax*, *58*(12), 1041–1041. https://doi.org/10.1136/thorax.58.12.1041

Munson, D. (2007). Withdrawal of Mechanical Ventilation in Pediatric and Neonatal Intensive Care Units. *Pediatric Clinics of North America*, *54*(5), 773–785. https://doi.org/10.1016/j.pcl.2007.08.001

Newborn, C. on F. and. (2007). Noninitiation or Withdrawal of Intensive Care for High-Risk Newborns. *Pediatrics*, *119*(2), 401–403. https://doi.org/10.1542/peds.2006-3180

Rubenfeld, G. D. (2004). Principles and practice of withdrawing life-sustaining treatments. *Critical Care Clinics*, *20*(3), 435–451, ix. https://doi.org/10.1016/j.ccc.2004.03.005