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ARTÍCULOS ORIGINALES

Noninvasive mechanical ventilation in adequateness effort limitation

La ventilación mecánica no invasiva en la adecuación del esfuerzo terapéutico

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Abstract

In the paper an evident concern is exposed by the ethical dilemmas before the hardly taking decisions for the adequateness therapeutic effort in relation with the noninvasive mechanical ventilation in the daily medical practice in the intensive care units.

With the objective of achieving a theoretical reflection, essential aspects related with this polemic are exposed to reach an approach in so controversial topic, so effective in our daily reality and that it involves numerous spheres, being therefore of imperious necessity of debate.

Health care professionals should have comprehensive training, especially in the humanitarian aspects of care. This is essential to enable them to correctly resolve ethical conflicts that arise in professional practice.

Key words: noninvasive mechanical ventilation; adequateness therapeutic effort; ethical dilemmas

Resumen

En el trabajo se expone una preocupación evidente por los dilemas éticos ante la difícil toma de decisiones para la adecuación del esfuerzo terapéutico en relación con la ventilación mecánica no invasiva en la práctica médica diaria en las unidades de atención al adulto grave.

Con el objetivo de lograr una reflexión teórica, se exponen aspectos esenciales relacionados con esta polémica para alcanzar un acercamiento en tan controvertido tema, vigente en nuestra realidad diaria y que involucra numerosas esferas, siendo por tanto de necesidad imperiosa el debate.

Los profesionales de la salud deben estar entrenados en los aspectos humanitarios de los cuidados básicos. Esto es esencial para que sean capaces de resolver correctamente los conflictos éticos que surgen en la práctica profesional.

Palabras clave: ventilación mecánica no invasiva; adecuación del esfuerzo terapéutico; dilemas éticos

Introduction

The emergence and development of the practice of adequateness therapeutic effort in the intensive care units, arises as a result of a whole series of conditions that have been brewing since the advent of the modern world, which would prepare the way for the appearance of this good clinical practice as a positive movement and the marked human character that must prevail in medical care, in response to the extensive scientific and technical development introduce in it.[1]

The article presents the difficult situation of patients, family, and professionals in a delicate and doubtful moment, when the end of life is near.

Scientific-technological progress promises, day by day, new expectations in relation to the subject of life and death. Much is currently being discussed about the patient's state and its evolution from the scientific point of view, but it is not a matter of integrating this with the ethical, that is, with what is justifiable from both a scientific and a moral point of view.

The marked progressive aging of our population, as well as the increase in oncoproliferative diseases, has led to increasingly serious and complex situations that make the adaptation of the practice of aggressive therapeutic procedures inevitable; since the prolongation of life without regard to its quality may not serve the best interest of the patient, and where the use of artificial means to prolong it can become a degrading action that violates ethical principles, being incompatible with human dignity.

The adequateness therapeutic effort means applying therapeutic measures appropriate and proportional to the actual situation of the patient, avoiding both therapeutic obstinacy and abandonment, on the one hand, or unnecessary lengthening and deliberate shortening of life, on the other.[2,3] In the country there is a long and rich academic tradition in the field of health and also a medical ethic based on the solid foundations of Cuban medical thought, enriched with the values, culture, traditions and customs of today's society.[4,5,6]

The objective is to propose a theoretical reflection that will help us to approach this controversial issue from the point of view of modern medicine of our days that can offer us so many benefits by using it rationally and based on well-established ethical principles and norms. A dilemma encompassing many spheres but in the present work it is a question of addressing its relation with the application of noninvasive mechanical ventilation in the intensive care units. The article has reflections about death, ethical dilemmas, and actions of professionals in context of terminal patients.

Development

The intensive care unit (ICU) is where patients are given some of the most technologically advanced life-sustaining treatments, and where difficult decisions are made about the usefulness of such treatments. Health care professionals should have comprehensive training, especially in the humanitarian aspects of care. This is essential to enable them to correctly resolve ethical conflicts that arise in professional practice. Death needs to be recognized as part of the human life.

Ethical problems are constantly arising in medical practice, especially in connection with the use of cutting-edge technology for diagnosis and treatment. The high cost of these resources means that they have to be used selectively, and at that point decisions are made about who should and should not get to use them. If adequate oxygenation cannot be maintained with these less invasive measures, endotracheal intubation is needed and mechanical ventilator support should be instituted. It is important to distinguish among the various forms of respiratory failure because the therapeutic goals of mechanical ventilation differ depending on which form is present.

Despite its progressive presence reflected in several studies, the adequateness therapeutic effort continues to be a source of conflict in the routine practice of intensive care units.[7,8,9]

The right of a dignified death relates to the desire fora natural death, humane, without extending life and suffering by means of useless treatment.[10] Among the measures related to the adequateness therapeutic effort is noninvasive mechanical ventilation as an alternative to conventional respiratory support, a paradigm of life support measures.

Respiratory failure is a very common problem in individuals treated in intensive care units that are affected by terminal pathologies or with a high degree of chronicity and limitation.[11,12]

Given the special baseline characteristics of this type of patients with a high percentage of them with blunted or terminal processes, it is logical that both the patient and the environment and the responsible health professionals question the convenience of using aggressive life support measures.[13,14]

In recent years, patients that are not subsidiary to invasive mechanical ventilation, noninvasive mechanical ventilation has become more and more powerful as an initial approach to acute respiratory failure in a diversity of nosological entities. This progressive increase in its use stems from its ability to avoid the serious complications that are so often seen in the daily routine of the intensivist and which are derived from traditional mechanical ventilation, as a consequence of trauma trying to reach the upper airway, ventilator-associated pneumonia, the need for sedation, inhibition of natural airway defense barriers, the presence of airway haemorrhagic phenomena and the patient independence, among others; all this interferes in a negative way in the weaning process of the ventilator patient and therefore their short, medium and long term prognosis is usually compromised.[15,16]

With regard to the use of noninvasive mechanical ventilation at present it is sometimes controversial with its application. There are two currents of thought about this; where, on the one hand, there is a current of opinion that supports the use of this modality as a first-line therapeutic tool and, fundamentally, in those respiratory processes reversible in isolation by the benefit about to obviate invasive access of the airway. The noninvasive mechanical ventilation provides the capacity of comfort and some autonomy to patients who are immersed in the final stage of their pathological processes, both in the hospital setting and in the context of the palliative care at home, it is another reason for its regular application in this type of care context.[17,18,19]

Respiratory failure is the primary indication for initiation of mechanical ventilatory support. It is very important to distinguish among the various forms of respiratory failure because the therapeutic goals of mechanical ventilation differ depending on which form is present.

Ethical dilemmas can arise between the health team and the patient, the family, or their legal representative. When a seriously ill or critically ill patient is treated by the health team of the intensive care units and their treatment is aggressive, with high risks and poor prognosis, disagreements about the appropriateness of therapeutic measures are frequent. Disagreements about fundamental values, which are often the origin of cases in which an extraordinary, disproportionate or futile treatment is demanded by the patient, his/her family or the legal representative.[8] Acceptable clinical practice on withdrawing or withholding treatment is based on an understanding of the medical, ethical, cultural, and religious issues.[20,21]

Disproportionate treatment or disproportionate means are defined as those measures that are not adequate to the actual clinical situation of the patient, as they are not proportional to the results that could be expected. It is that treatment that does not maintain an adequate balance of costs-charges /benefits in function of the objectives pursued; would not offer a relevant benefit to the patient and would cause great harm or burden to the patient, his family or society. The opposite is a proportionate treatment.[22,23]

Adequateness the treatment does not mean to abandon the patient but rather to redefine his needs, such as pain treatment, prevention of complications, and relief of suffering.

Today, adequateness the treatment has become part of the options compatible with the good clinical practice. The ethic rationale for these decisions is the respect to the dignity of human life, and the estimation of proportionality or futility of each treatment.

"Medical futility generally refers to the inappropriate application of medical intervention that is unlikely to produce any significant benefit for the patient; making decisions about futile treatment is medically complex and morally stressful".[24]

Medical ethics decisions always entail a certain amount of difficulty. Clinical alternatives make the adoption of well-founded decisions quite difficult.

The author's criterion is that the professional and scientific response to the needs of the patient in terminal situation is in palliative care. Palliative care aims to actively engage patients whose diseases do not respond to curative treatments. In these cases, it is fundamental to control pain, other symptoms and psychological, social and spiritual problems. The objective is to achieve a better quality of life for the patient and his/her family, to ensure that these patients live fully their last days or months and have a dignified death.[25,26]

Knowledge is a necessary but not sufficient condition for proper decision making in this scenario; which reveals the need to take into account both scientific-technical knowledge and ethical values.[27,28] The decision to limit some vital support measures, based on the criterion of futility, must be analyzed, discussed and collegially joint by the health team to avoid one-person

decisions. In most of the literature reviewed about the position to be adopted by the physician, in relation to therapeutic futility, the position is defended to remove useless treatments, which perhaps in their moment were not, with the corresponding consensus of the professionals of the Intensive Medicine Service, as well as with relatives.[29,30]

Rapid advances in medicine have placed modern day man in a situation characterized bay perplexity and dangerous confusion. At the same time, they have underscored the need to analyze such advances and evaluate their negative consequences for individuals and communities.

Given this situation, it is essential to examine the relevance of the new diagnostic and treatment methods, the causes of technological abuse, the ethical aspect of the use of medical technology in the intensive care unit, and even the relationship between technology and society.

To make such a decision requires adequate training, good communication between the clinician and family, and the collaboration of a well-functioning interdisciplinary team. Hospital ethics committees have arisen in response to the serious moral dilemmas that are becoming increasingly prevalent in medical practice.

Conclusions

In today's world it is very common to use technologies, which are used very often in the intensive care units in an excessive and indiscriminate way, violating bioethical principles and the right to a dignified death, when this end is the expected outcome of the underlying disease.

On numerous occasions patients are applied to extraordinary measures, disproportionate, futile and therefore not adequate, in which full technification renders the act of dying impersonal, artificial and improper, a very frequent example with invasive mechanical ventilation.

The uses of the technologies could be used in a more rational and strategic way without needing to fall into ethical and disrespectful faults for the life of those patients with an incurable disease and in whom the application of non-invasive mechanical ventilation would be a beneficial alternative to scientific and technological development.

It is therefore important to develop a plan of action in which to establish the possible measures to follow, it can be very useful, the establishment of various therapeutic steps by which to guide us in establishing standards or guidelines in such situations that are very difficult to manage, as sometimes occurs, for example, administering oxygen or noninvasive ventilation but not performing intubation. It should be noted that the patient can recover from the critical episode with the established plan and survive with the measures taken.

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