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ETHICAL IMPLICATIONS REGARDING THE USE OF BIOTECHNOLOGIES IN TERMINAL PATIENT CARE

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Abstract

Modern medicine has made significant progress regarding the use of medical biotechnologies in order to support and reduce the suffering of terminally ill patients. The developments of the 21st century have brought new certanties in the medical field regarding the capacity to support or replace the main function of affected organs, offering new opportunities for end-of-life care.

From another perspective, a debatable area concerning the benefits of implementation of medical devices in end-of-life raises various ethical disputes. The excessive use of life support techniques in case of terminal patients can lead to a health worsening and a low quality of life. Cultural and religious beliefs of patients' and health care providers' also have a great influence on decisions regarding their end-of-life. The ethical and deontological justification for a reasonable usage of life support biotechnologies is the basis of improving the end-of-life decision-making process.

The purpose of this paper is to determinate the ethical justification of the use of life support biotechnologies that lead to a mechanization of the death process. Therefore, we will focus on the morality of the decisions regarding the sustaining or withdrawing the life sustaining techniques, which will provide a major conclusive force towards more rational and reliable end-of-life decisions.

Keywords: ethics, biotechnology, mechanization, terminal patient, palliative care

The implications of biotechnologies throughout the history

Along with the art of healing, springing from the urgent need to help the suffering ones, "empirical practice has always preceded theory" (Riga & Călin, 2008) guiding the meaning, the hopes and the finality of the human search towards an increase of the quality of life along with the wish of prolonging it. If, from an intuitive theoretical perspective, life still had a meaning and a signification, death, as an obviously disconcerting reality, continued to remain an impenetrable mystery for man. From a thanatological perspective, it is difficult to achieve a medical certification of the phenomenon of death, because very often, moving from the theoretical conceptualization to the concrete medical facts, we must recognize that "the importance of risk awareness increases with the assertion of the impossibility of eliminating these risks" (Beck, 1992).

Biotechnology is a concept that brings together both living organisms and technology in one. It is a science that existed in the far past and is expanding in the present. The first example of biotechnology was provided by the evidence found in Gobeklitepe, Anatolia and it shows that man carried out fermentation in 10.000 BC (Memisoglu, 2020).

When referring to the father of medicine, Hippocrates and continuing with Herophilos, Erasistratos, Galen, Avicenna or Vesalius, the need to discover the structure of human body arose from the presence of physical suffering. The development of medicine

needed to be accompanied by the elaboration of ethical principles and anthropogenic sedimentation of moral conscience, in order to establish methods of properly using the accomplished knowledge and practicing of modern medicine.

Although extraordinary advances in medicine, including anatomical and histological descriptions, were made, a clear pathophysiology of the disease was not crystallized at that time. Rudolf Virchov's pathology school firstly linked the outbeak of disease to a histological injury and specific symptoms and its causal influences from the external environment. These assertions have proved their validity criteria together with the hypotheses launched in the seventeenth century, the time when the concept itself evolved from "symptom-disease" towards "disease-syndrome"(Dewhurst, 1966), thanks to the contributions of the english physician Thomas Sydenham (1624- 1689), which finally led to the terminologically evolution of the concept of disease in modern medicine: "nosological entity".

The nineteenth and twentieth centuries were characterized by the cognitive development offered by the dominant mechanistic philosophy (Trousson, 1997). The research conducted by scientists of that time is characterized by the expansion of studies on the "small infinity" of the universe (Prigogine & Stengers, 1984). One of the most noticeable events of the year 1665 is the discovery of the cell, made by Robert Hooke. Moreover, important discoveries were also made in the fields of biochemistry (Mohan & Neacșu, 1992) by Robert Koch and Louis Pasteur. The scientific achievements in genetics, were also noticeable due to the description of the structure of the double helix s model of DNA, in 1953, by Francis Crick and Jim Watson (Lecourt, 2005). Through these inovations, the confidence in the claims of materialism started to lose popularity and the biological model was transposed into medical practice.

In the twentieth century, Jean-Paul Sartre considered the man as being "condemned to be free" despite of the reality of death. If death terminates man’s transcendence and forecloses his possibilities, then it also limits his freedom. It is the argument of this work that freedom has its limitations and the greatest of such is death (Iwuagwu, 2019). These ideas were already projecting the coordinates of the Sisyphean archetype of suffering and damnation on the canvas of existentialism, a context in which the horizon of lovers of wisdom opened themselves to the new personalist current, the noetic space where, axiologically, the human person was positioned as a central value.

Ethical considerations of biotechnologies nowadays

What does biotechnologies, which are as old as human history, have to do with modern ethics? First of all, technology, in general, leads to social transformation. As Postman states in his book, technology can transform people into healthier individuals and extend their lives. On the other hand, companies tend to focus on financial benefits, while moving away from moral responsibility and developing a subculture without moral foundation (Postman, 2011).

When referring to the implications of biotechnologies in assessing terminally ill patients, a lot of debatable questions could occur. Do we really want to live longer? What if the person, whose life has been prolonged, is the one who will cause damage to the world? Should the prolongation of life only apply to rich societies? Isn’t access to medicine produced with advanced technology and healthy living the fundamental right of all people? Such questions indicate the necessity of not only taking into consideration the biological needs, but also paying attention to psychological, spiritual, moral and deontological aspects of prolonging life artificially (Memisoglu, 2020).

At present, on the contrary, the problem of postmodernity lies in discrediting eternity and in the radical temporalization of existence. Due to these reasons, many issues emerge, when approaching actual medical problems that are exacerbated by the SARS CoV19

pandemic. The human being is forced - through economic and pseudo-cultural mechanisms, - to wear the coat of an individual who finds himself in a filthy rupture of the canvas of time. The world we live in tends to become out of substance and to be the generator of a superficial human model, reduced to the immediate surface of reality, which makes the pragmatism of science be accompanied by a state of recoil at the moral level of human consciousness. It is becoming increasingly clear that humanity is part of a concerted action that leads to a dilution of ethical responsibility.

The paradoxes of the history of medicine do not completely capture the particularities of the life-death dichotomy and therefore, even if there is a certain process of determining and declaring death, its perception is different depending on the human factor and the performance of medical equipment. From an epistemic perspective, these referential remarks lead to the theme of "mechanization of death", which, besides focusing on the actual pandemic context, is an introspective diachronic return to the history of medicine. In order to better understand the relationship between biological, psychological, ethical, social, technical and spiritual factors in the case of terminal illness, it is necessary to open onself to an apprehensive horizon in which we can use the principle of modeling, taken from IT, thus simplifying schematically, a process always situated between comprehension and explanation (Riedel, 1989). It can be rendered not only by the symbolic expressiveness of "1" and the almost improbable "0", but precisely when, by revealing the possible relations in their fractal infinity, Mandelbrot (2010) demonstrated that one can speak of the whole Universe as of about a computational process. This is also the analytical framework where the concept of death proteomically crosses a plurality of anthropological, sociological and religious fields, frequently imposing the impression of over-determination. Therefore, the contribution of morphopathology to the research of the phenomenon of death is not negligible, although, out of epistemological caution, many thanatologists have abandoned theories that intersect metaphysics and science at the ontological level and have focused research on psychoethics.

Science has always promoted human assistance in the process of death of the ill. This process became part of a medical act and the need of ethical and deontological criteria for regulating it started to increase. Especially nowadays, due to the technological developments, the use of medical equipment in order to maintain and also to prolong led to various ethical debates. Thus, the actual regulations for hospitals require intensive care units (ICU) to be equipped with various life support medical devices including: defibrillators, patient monitors, pulse oximeters, ventilators.

The availability of technology may create a sense of moral obligation to use it based on a belief that to treat is to care. Nevertheless, the professional norms of the medical acts define certain circumstances in which some heroic measures are not obligatory. For example, cardiopulmonary resuscitation in terminal cancer patients is not endorsed because of its violation of the dignity of the irremediably ill, and its unproductive cost to society. Moving back from this extreme, the availability and effectiveness of life-prolonging treatments, such as ventilators, dialysis, and implantable mechanical hearts, moves into a domain where the boundary limit of the obligation to preserve life is less clearly defined. When the continuing intervention of caregivers is essential to the prolongation of life, but the outcome and quality of residual life has deteriorated far below everyone’s expectations when the treatment was initiated, caregivers are morally troubled as their treatments prolong the process of dying (Reynolds, 2007).

The general access to technology: a moral obligation?

The assertion that the care of the dying and the assistance of death remain *sine qua non* obligations, which can be discursively positioned at the same level as the Hippocratic Oath. From an analytical point of view, death cannot have an independent existence because

it is linked to life. Death is not an abstract notion which is beyond the material or spiritual reality. The meaning of death can only be found facing and confronting life and the sufferance associated with it, especially in the presence diseases known for their terminal phase which can include conditions like: comatose states and immobilization in bed, impossibility of oral administration of medication, difficulties by administering fluids (Ellershaw, Ward, 2003).

Determined by a paradigm shift structured on three axes, ICU protocols in hospital units, have overcome the biomedical model based only on etiology, pathology and symptoms, increasingly taking into considerations aspects such as: 1- the model of medical rehabilitation as a bio-psycho-social approach of patients with disabilities, according to the International Classification of Functioning, Disability and Health (ICF) classification, 2- the transition from a medical paternalism to patient-centered medicine, 3- the focus on the axiological topic of life (expressing the level of mentalities, cultural diversity or spiritual-religious structure). Practical considerations required the development of Core Sets which are also applicable in the clinical monitoring routine.

An intensive care unit must be equipped with the most advance medical tools, in order to achieve proper clinical protocols for terminal patients, especially for the ones facing imminent death. The principles of palliative care are based on the actual legislation in Romania, which regulates the rights of a patient (Law no. 46/2 Jan. 2003, updated on June 6, 2009).

The availability of technology may create a sense of moral obligation to use it based on a belief that to treat is to care. Taking this idea into consideration, clinicians could be faced with the trap of valuing technology more ‘‘than competent compassionate care at the end of life’’ (Nelson, 2001). The palliative care staff often feels morally obligated to continue technologic support of life, despite unlikely survival. In developed countries, the natural process of death was changed by the decisions made by health care providers, who have the possibility to prolong life or even to choose the time of death: ‘‘Whereas nature once decided who would live or die, our technological capacities have come to play that role’’ (Callahan, 2000). In countries with fewer technologic resources, end-of-life decisions are made with less certainty and conflict (Reynolds, 2007).

Ethics of using biotechnologies to prolong life for palliative care patients. Withdrawing versus withholding life support

With advances in medical technology and therapeutics allowing the seemingly limitless maintenance of life, the exact time of death of an individual patient is often determined by the decision to limit life support. How to care for patients at the end of life is not only a medical problem but also a social, ethical, and legal issue. A lot of factors, besides culture, come into play in determining a person’s ethical attitudes or behaviors, such as experience, education, religion, individual attributes, and economic considerations (Li, 2013).

Withdrawing life-supporting technology from patients who are irremediably ill can raise many moral problems for caregivers, patients, and families. Interventions that enable clinicians to delay death may lead to situations in which the dignity and comfort of dying patients may be sacrificed in order to make a decision that only makes sense for professionals and families, one that may spare them from their elemental fear of death. Understanding the limits of treatment, expertise in palliation of symptoms, skillful communication, and careful orchestration of controllable events can help to manage the withdrawal of life support appropriately (Reynolds, 2007).

Despite consensus that there is no ethical or legal distinction between withholding and withdrawing treatment (Beauchamp, 2001; Gostin, 1997), caregivers experience a disturbing experience when being faced to choose between the two options (Gordon, 2004; Seymour,

1997). The feeling of responsibility and culpability for the death caused by the caregiver who took part in the withdraw process is almost inescapable despite theoretical distinctions, professional endorsements, and legal precedents. Seymour followed ICU physicians on their daily rounds and observed their end-of-life decision-making processes (Seymour, 1997). Unless the patient was very close to death, physicians were not comfortable withdrawing support even though they had earlier acknowledged a negative prognosis. The health providers could find a justification of administrating the withdrawing treatment only when ‘‘it becomes clear that death will occur in spite of any further treatment maneuvers. In this way a causative link between non-treatment and death is avoided.’’ To withdraw life support is to recognize that the underlying disease process cannot be reversed. The intention is not to kill, although death certainly ensues. The intention is to acknowledge the limits of medicine. The death that follows, even if immediate, indicates the severity of the disease state and uncovers the inability of the patient’s body to survive (Reynolds et al., 2007).

The decision-making capacity is often affected in case of dying patients. This process may be complex and emotionally draining for the terminal patient, its family and for the health care providers. Advanced directives, when available, should guide the decision-making process, although it is often a medical team decision (Mercadante et al., 2018). Patients’ families may experience psychological and physical distress, including depression, fear, anxiety, fatigue, anorexia, and early posttraumatic stress symptoms (Davidson et al., 2017).

Palliative care is patient and family-centered care with the aim of improving quality of life by addressing the patient’s suffering, providing a comprehensive management of patients facing incurable diseases. Moreover, palliative not only focuses on the physical aspects, but also on the psychological and spiritual characteristics, providing a personalized approach (Aslakson et al., 2017; Byock, 2006). Ethical and legal aspects of decision making, transition planning, care during the dying process, and family support including grief and bereavement care complete the pattern of palliative care competencies. Therefore, many families have the chance to be present at the time of death, for example by the withdrawal of mechanical ventilation or extubation, which allows theam to easily accept the loss of a loved one.

Although, attitudes and behaviours to the end of life are frequently influenced by cultural aspects. There are many various religious points of view regarding on end-of-life decisions (Bülow et al., 2008). Therefore, the pacient’s personal beliefs should be taken into consideration when deciding wheather to sustain or to withdraw life support. For example, it has been shown that physicians with a Catholic background were less likely to withhold and withdraw therapy than their Protestant or agnostic counterparts (Mercadante et al., 2015). Korean Americans believe that life support should always be considered even though this is not what they would choose for themselves. African Americans believe that life-sustaining interventions could be forgone, yet they themselves want such interventions. Within the Chinese culture it is considered rude and courting bad luck to disclose a fatal diagnosis to a patient, obviating direct discussion of withdrawal (Desai et al., 2011). Health care providers should pay attention to these personal belief systems in order to make the decision which suits the patient’s beliefs and expectations.

Death, although studied for thousands of years empirically or scientifically, remains "an entity which is continuous and inseparable from life- being immanent to life" (Bernea, 1996). The irreducibility of phenomena of life and death make sense only linked to the irreducibility of existence itself, including its specific mystery. Taking this idea into consideration, irreducibility does not separate but, on the contrary, it unites. This relationship between life and death outline the importance of establishing a set of ethical and moral principles which schould properly regulate implications of use of medical technologies in the process of death (Skolka, 2004).

Conclusions

Ethical dilemmas will continue to appear as long as humanity exists. Referring to the dilemma of the implications of biotechnologies for prolonging life, what if the decision considered to be ‘‘right‘‘ by the medical provider does not takes into consideration the spiritual and cultural needs of the terminal patient? As Shakespeare said, death is a ‘‘necessary end’’, an inevitable reality that the patient, together with his family and physicians need to accept and to embrace. Prolonging life with the well-motivated use of biotechnologies could also become a degrading activity, which affects the dignity of the pacient. The reasonable usage of life support biotechnologies is the basis of improving the end-of-life decisions for the common good of all the people involved in this process.

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