END OF LIFE AND PALLIATIVE CARE IN THE INTENSIVE CARE UNIT

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Problems faced by anesthesiologists in the ICU with patients at the end of life-

In the Intensive Care Unit (ICU), critically ill patients receive life-sustaining therapies with the goal of restoring or maintaining organ function. Palliative Care in the ICU is a widely discussed topic, and it is increasingly applied in clinics. The aim of intensive care is the maintenance of vital functions to reduce mortality and prevent morbidity in patients with severe critical illness. Despite the development of new technologies and the improvement of care, death rate in the intensive care unit (ICU) remains high, ranging 20–35%, with variations according to geographical regions. In the latest years, ICU admissions in the last month of life have been growing up to 30%. Around 13% of patients admitted to critical care in Europe die in the Intensive Care Unit (ICU). The European Society of Intensive Care Medicine (ESICM) has developed evidence-based recommendations and expert opinions about end-of-life (EoL) and palliative care for critically ill adults to optimize patient-centered care, improving outcomes of relatives, and supporting intensive care unit (ICU) staff in delivering compassionate and effective EoL and palliative care.

EoL legislation and the importance of respecting the autonomy and preferences of patients were given close attention. Differences in EoL care depending on country income and healthcare provision were considered. Structured EoL decision-making strategies are recommended to improve outcomes of patients and relatives, as well as staff satisfaction and mental health. Early integration of palliative care and the use of standardized tools for symptom assessment are suggested for patients at high risk of dying. Communication training for ICU staff and printed communication aids for families are advocated to improve outcomes and satisfaction.

Definition of Death: An individual who has sustained either:

- Irreversible cessation of circulatory and respiratory functions, or
- Irreversible cessation of all functions of the entire brain, including the brain stem.

Type of death in ICU:

- After an initial successful resuscitation
- End stage chronic disease
- New diagnosis of life limiting conditions
- Sudden
- Traumatic
- Brain stem death

When the organ dysfunction of critical illness does not respond to treatment, and the goals of care cannot be achieved anymore, or when life support becomes to be non-proportional to expected prognosis, ICU physicians should provide an acceptable death. When life-sustaining therapies are unable to meet the patient's goals or paradoxically may result to be more burdensome than beneficial, withdrawal and withholding of therapies is a common place among ICU physicians.

In the ICU, deciding to move from curative to EoL care is particularly challenging, because it involves withdrawing or withholding life-supporting treatments (LSTs) EoL care practices are shaped by ethical principles, legal frameworks, cultural norms, and available resources and therefore vary substantially across countries and healthcare systems. Clinical teams share LST limitation decisions with patients and families in some countries and make them alone in others.

No single approach is optimal for all patients, and clinical judgment is therefore needed to tailor EoL care decisions.

End of life care: some definitions

-Life threatening illness
-Permanent alteration of functional status
-Life-limiting illness

Life-threatening illness: Potentially, but not necessarily fatal illness. For example: serious car accident resulting in major trauma, severe infection, early stage breast cancer. Patients with life-threatening illnesses may come to the brink of death and be saved by medical care and return to a normal quality of life.

Permanent alteration of functional status: An illness or injury that has led to a permanent, severe change in functional status. For example: anoxic encephalopathy, massive intracranial hemorrhage, or other conditions leading to persistent vegetative state or the minimally conscious state. Life could be maintained but quality of life of patient is such that it is not clear that they would want to have it prolonged.

Life-limiting illness: An incurable, progressive illness which will eventually result in the patient's death, although it may take many years. Advanced cancer (most widely metastatic solid tumors), end-stage congestive heart failure or pulmonary disease, Alzheimer's dementia. Most of the leading causes of death in adults are these life-limiting illnesses. Medical care can prolong life and improve quality of life but cannot cure these illnesses. Patients with life-limiting illnesses will eventually die of this illness. As their disease progresses, they have an illness trajectory from having a life-limiting illness, to being terminally ill with that illness, to actively dying.

Terminal illness: As life limiting illnesses progress, patients become terminally ill. Deteriorating functional status and failure to respond to treatments of underlying condition are hallmarks of this phase of a life-limiting illness. Limited options, if any, to prolong life, death likely within months.

Actively dying: People with life limiting illnesses who are at the very end of life are in the process of actively dying. They are minimally responsive or unresponsive, no longer eating or drinking, bedbound, have altered breathing patterns. Usually have hours to days to live.

Use of life-supporting technology: In life threatening illness - CPR, mechanical ventilation and artificial feeding are techniques originally developed for patients with acute, life threatening illnesses. In this setting, they are used to support the patient's life, while the patient is undergoing treatment aimed at reversing the underlying cause of cardiac or pulmonary failure. Use of life-supporting technology: permanent alteration of functional status. Most of the famous bioethics cases involve this situation. Patient could live a long time in a vegetative state if artificial feeding and treatment of complications and infections are continued. Patients and their families have a right to choose if they would want this type of life prolongation. Use of life-prolonging technology: life-limiting illness . All patients with life-limiting illnesses while eventually develop cardiac and respiratory failure at the end of life as part of the normal illness trajectory. Life supporting technology is less effective (often much less effective) in these conditions, because the underlying condition causing cardiopulmonary failure cannot be reversed. Life-limiting illness- The number of patients with these illnesses are increasing as our population ages .A large percentage of spending on health care is devoted to these conditions. Physicians, patients and family members struggle with how best to care for these illnesses.Prognosis and functional status-One of the measures that has been shown to best predict prognosis for a variety of patients with life-limiting illnesses is functional status. **Functional status** is the ability of an individual to function physically and mentally, and to stay well nourished.

Illness trajectory- Natural history of a chronic progressive (life limiting) disease.(Dementia, Metastatic lung cancer (stage 4), End stage chronic obstructive pulmonary disease or congestive heart failure) Goals of care-

-Treating aspiration pneumonia in patients with Alzheimer's dementia will not cure dementia or even prevent further decline in the future. Such aspiration events will likely recur in the future.If treatment of the pneumonia is successful it may prolong life and reverse acute symptoms. If patient develops respiratory failure, should we use mechanical ventilation or CPR? There are ethical aspects to these questions, but medically speaking we also need to know: how well do those interventions work? Do these interventions prolong life or improve the quality of life for people with advanced dementia? Patients, if able, their families and the medical team caring for the patient need to determine what types of treatment are warranted in light of stage of illness, patient's quality of life and values. To make these decisions, they need to consider what will happen to the patient if they get the medical treatment, now and in the future.

-Metastatic lung cancer: treatment decisions-Do you do first line chemotherapy? Second line chemotherapy? Third or fourth line? What about CPR, or mechanical ventilation?

-Cardiac disease and end of life care-Treatments that prolong life, often improve functional status and quality of life as well! It is harder to predict mortality than cancer or other illnesses. Several interventions (implantable defibrillators, pacemakers) prevent sudden death from arrythmias and prolong life. These devices do not cure CHF, and can not prevent eventual functional deterioration. If patient's functional status has deteriorated to the point where they would no longer want it prolonged, what do we do with these devices?

Other choices-Patient with permanent alteration in functional status have a different illness trajectory. These patients have an injury or illness which places them in a functional state which is severely reduced, without having progressive symptoms. Traumatic brain injuries or strokes which lead to permanently altered mental status or even vegetative states are one example of such illnesses. These are illnesses in which life could be maintained for prolonged period of time, but the quality of life is such that many would not want their life prolonged.

Anesthesiologists in such situations should be aware that in any case, the expected survival time is not necessarily an absolute factor for decision-making, as the deterioration of the patients' condition in the postoperative period, suffering from complications and hospitalization, in other words, quality of life, should also be considered. This should not be confused with slow euthanasia, where clinicians sedate patients nearing the end of life with the primary goal of facilitating the patient's death. Most centers use midazolam because of the drug's short half-life, ease of administration, and good efficacy. Opioids should not be used for the primary purpose of sedation, but should be reserved for analgesic purposes or analgo-sedation in patients with good prognosis.

In conclusion- The integration of palliative care experts into the work of intensive care units can benefit patients, families and ICU physicians. The palliative care team dramatically changed the way dying patients in ICU are treated compared to patients who died without consultation with the same team. Therefore, it is necessary to develop standards for decision-making that will facilitate the treatment of these patients.

Standards for Decision Making. In the United States and many other countries, limiting life support is ethically and legally justified under the principle of autonomy. U.S. law grants patients with decision-making capacity the right to refuse any and all therapies, including those that sustain life. This standard is problematic in the ICU, however, where as many as 95% of patients may not be able to make decisions at the end of life, and information should be delivered in ways that are sensitive to the patient's cultural, religious, and language needs. Physicians should take seriously their responsibility to make recommendations and guide families in ways that accord with their decision-making preferences. Practical advice around the withdrawal of life-sustaining treatments comes from a combination of theoretical considerations, empirical data, and clinical experience. Although the phrase "withdrawal of care" is often heard, it is important to

distinguish between the withdrawal of life-sustaining interventions and the withdrawal of care. While the former is common, the latter should never occur. Language is important, particularly to patients and their families.

CONCLUSION- End-of-life care is emerging as a comprehensive area of expertise in the ICU and demands the same high level of knowledge and competence as all other areas of ICU practice.

KEY POINTS –

-ICU clinicians should be competent in all aspects of the end-of-life care.

-Integration of palliative care experts into the operation of ICUs may be of benefit to patients, families, and critical care clinicians.

-Communication issues with the relatives are essential, as an appropriate relationship improves patient care and family outcomes in the last days of life, allowing us to share the same objectives and expectations.

For the end-

As the great moral philosophers of our time say:

You can't always get what you want, but if you try sometimes, you get what you need.