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LETTER TO THE EDITOR

Critical patient's healing walks and photoprotecion: the dark side of the sun

Paseos curativos en pacientes críticos y fotoprotección: el lado oscuro del sol

Dear Editor:

A prolonged stay in an intensive care unit (ICU) could have detrimental consequences for patients and their families, causing both long-term physical and psychological sequelae.[1] In this regard, we read with interest the article by Igeño-Cano concerning about benefits of transfer patients outside the ICU to an open area.[2]

However, the impact of solar radiation (SR) on drugs had not been a consideration in the treatment of critical patients up till now, underestimating the risks of adverse reactions (AR) (Supplementary Fig. S1) and photoinstability of drugs administered at that time (Supplementary Table S1). These risks will be even greater in the coming years due to climate change.

For all these reasons, during critically ill patients' walks, it is advisable to protect the patient against SR as well as the drugs administered, specially avoiding sun exposure during strongest radiation according to the climatic zone (Supplementary Fig. S2).

For patients, it is essential to consider, the night administration of photosensitizing drugs to reduce drug concentrations during the day for drugs with short-medium half-lives, use of a hat, UV protection sunglasses, opaque clothing, keeping the application site of photosensitizing topical or transdermal drugs covered, and the application of a SPF50 cream without photosensitizers.

Likewise, it is important to apply also the pertinent preventive measures to those discontinued drugs with long half-life or prolonged-release formulations administered on previous days, such as azithromycin or depot intramuscular antipsychotics.

It is essential to correctly protect photosensitive medications with opaque or light-protected bags and photoprotected infusion lines to maintain their physical, chemical and pharmacological properties.[3]

The implementation of measures such avoiding times of maximum SR or prioritizing intermittent intravenous infusions over continuous administration could also be useful. Drugs requiring bolus administration could be better administered before going outside to avoid the increase in the patient's body temperature, a factor of drug stability, due to the SR during the walk.

In front of relatively high environmental temperatures (>25 °C/77 °F), refrigerating infusions by wrapping of infusion pumps in cold pouch between 2 freezer packs[4] throughout their administration outside or storing the drug-filled device in the refrigeration before critical patients' walks could be a strategies to bear in mind for thermolabile drugs. Nevertheless, it is necessary to evaluate the impact of refrigeration on the stability of each specific drug, diluent, and formulation; to avoid the formation of precipitation or crystallization or any other physicochemical instability.

Transdermal drug delivery should also be considered due to drug diffusion into the skin is a temperature-dependent process. Therefore, an optimal strategy could be to maintain the application area covered during administration and for days after removal.

Both enteral and parenteral nutrition must be discontinued due to lipid peroxidation and vitamins degradation.[5] Because hypoglycemia may occur, glycaemia monitoring or dextrose 5% in water administration is required.

Intensive care medicine faces the challenge of adapting clinical practices to new scenarios to humanize ICU, but this brings also new challenges. In the organization of patients' walks, it is essential to include a photoprotection protocol adjusted to routine clinical practice.

Authors' contributions

All authors have contributed to the manuscript and have read and approved the final manuscript.

Appendix A. Supplementary data

Supplementary material related to this article can be found, in the online version, at doi:https://doi.org/10.1016/j.medine.2023.05.013.

References

1. Wilson ME, Beesley S, Grow A, et al. Humanizing the intensive care unit [Internet]. Crit Care. 2019;23. Available from: https://pubmed.ncbi.nlm.nih.gov/30691528/
2. Igeño-Cano JC. Beneficios de los paseos por jardines exteriores del hospital en el paciente crítico, familia y profesionales. #paseosquecuran. Med Intensiva. 2020;44:446–8.
3. Sánchez-Quiles I, Nájera-Pérez MD, Espuny-Miró A, et al. Review of the stability of photosensitive medications [Internet]. Farm

Hosp. 2011;35:204–15 [cited 2022 May 22] Available from: https://www.elsevier.es/es-revista-farmacia-hospitalaria-english-edition-221-articulo-review-stability-photosensitive-medications-S217350851100013X
4. Kuti JL, Nightingale CH, Knauft RF, et al. Pharmacokinetic properties and stability of continuous-infusion meropenem in adults with cystic fibrosis. Clin Ther. 2004;26:493–501.
5. Robinson DT, Ayers P, Fleming B, et al. Recommendations for photoprotection of parenteral nutrition for premature infants: an ASPEN position paper [Internet]. Nutr Clin Pract. 2021;36:927–41 [cited 2022 Jun 6] Available from: https://onlinelibrary.wiley.com/doi/full/10.1002/ncp.10747

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Do you treat loyal patients?

Tu paciente ¿es infiel?

Dear Editor,

Improving patient safety in healthcare is a challenging task, and, as it happens in love and war, we can use whatever tools we have available. Ideally, validated processes and tools will play a primary role in this endeavor; however, checklists and memory shortcuts like mnemonics have been widely used in clinical medicine since ancient times.[1] Mnemonics even have a ̈playful-educational̈connotation that makes the work of residents or on-duty physicians more manageable. From ̈FAST-HUG̈for a quick checklist regarding patient care[2] to mnemonics like ̈A MUD PILE CAT̈or ̈HARD UP,̈these tools have helped us avoid overlooking relevant aspects of healthcare and differential diagnosis at the ICU setting.

Ventilator-associated pneumonia (VAP) is a prevalent problem with a serious connotation that needs no introduction. The definition of VAP established by the American Thoracic Society and the Infectious Diseases Society of America (ATS/IDSA) is one of the most widely used ones and has remained unchanged over the years. Although it is accepted that there is no gold standard for diagnosis, the presence of new pulmonary infiltrates with clinical evidence of an infectious origin including fever, purulent sputum, leukocytosis, and/or worsening oxygenation are still valid criteria of the clinical practice guidelines proposed by this panel.[3]

I would like to suggest the mnemonic ̈ES INFIEL̈(which is Spanish for ̈is unfaithful̈) for Spanish-speaking regions, which has been used in our unit by residents and nurses during rounds over the past few years. It is a simple and concise tool that includes the ATS/IDSA criteria, which we pose as questions and often catch participants off guard. ̈ES̈stands for sputum (change in characteristics and/or quantity of expectoration), ̈IN̈for infiltrate (new or progressive opacity on the thoracic x-ray, which is the starting point criterion), ̈FÏfor fever or hypothermia, and ̈EL̈for elevated leukocyte levels or leukopenia with the addition of increased fraction of inspired oxygen or positive end-expiratory pressure in mechanical ventilation. While this mnemonic does not confirm or rule out the presence of VAP *per se*, its purpose is to prompt discussion during rounds, avoid delays when recognizing these clinical manifestations, consider if changes in antibiotic prescription are necessary or further investigate by requesting additional analyses including cultures of bronchial secretions.

Whether the mnemonic ̈ES INFIEL̈increases our sense of control over the healthcare process at the ICU or simply makes teamwork more enjoyable,[1] may God protect our patients from such an accusation!

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References

1. Sirgo Rodríguez G, Chico Fernández M, Gordo Vidal F, García Arias M, Holanda Peña MS, Azcarate Ayerdi B, et al. Grupo de Trabajo de Planificación, Organización y Gestión de la Sociedad Española de Medicina Intensiva Crítica y Unidades Coronarias (SEMICYUC). Traspaso de la información en medicina intensiva. Med Intensiva. 2018;42:168–79, http://dx.doi.org/10.1016/j.medin.2017.12.002.
2. Vincent JL. Give your patient a fast hug (at least) once a day. Crit Care Med. 2005;33:1225–9, http://dx.doi.org/10.1097/01.ccm.0000165962.16682.46.
3. Kalil AC, Metersky ML, Klompas M, Muscedere J, Sweeney DA, Palmer LB, et al. Management of adults with hospital-acquired and ventilator-associated pneumonia: 2016 Clinical practice guidelines by the Infectious Diseases Society of America and the American Thoracic Society. Clin Infect Dis. 2016;63:e61–111, http://dx.doi.org/10.1093/cid/ciw353.

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