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LETTER TO THE EDITOR

Do we actively and early mobilize patients admitted to an intensive care unit during mechanical ventilation?

¿Movilizamos de forma activa y temprana durante la ventilación mecánica a los pacientes ingresados en una unidad de cuidados intensivos?

Recently, the TEAM study (ClinicalTrials.gov number, NCT03133377) investigated whether early mobilisation in patients undergoing invasive mechanical ventilation in the intensive care unit (ICU) could mitigate ICU-acquired weakness, increase survival and reduce disability. A total of 750 adult ICU patients were randomly assigned to receive either augmented early mobilisation (minimisation of sedation and daily physiotherapy) or usual care (the degree of mobilisation normally provided in each ICU). The primary outcome was the number of days patients were still alive and out of hospital at 180 days after randomisation. Although no significant differences in survival were observed between the 2 groups, it is important to note that increased early mobilisation did not improve quality of life, daily activities of life, disability, cognitive function or psychological function in surviving patients.[1]

The study had a number of limitations. Firstly, the patients included were relatively young and had a shorter mean ICU stay than in other similar studies, which might have limited the extrapolation of the results to other patient groups. In addition, a restrictive definition of early mobilisation was adopted - which might have limited the intensity and frequency of the intervention.

A previous study showed that early mobilisation was associated with improved muscle strength and functional capacity in patients on invasive mechanical ventilation in the ICU. However, it was also found that early mobilisation might increase the risk of adverse events, such as hypotension and tachycardia.[2]

Muscle deterioration in the ICU occurs due to a complex interplay of factors, including prolonged immobilisation, systemic inflammation, sedative use and neuromuscular dysfunction.[3] In addition, the presence of chronic diseases and advanced age may also contribute to the development of ICU-acquired muscle weakness.[4] It is therefore important to consider strategies that could mitigate these risk factors.

Although early rehabilitation has been shown to improve muscle function, reduce time on mechanical ventilation and decrease ICU stay,[4] the results of this study do not show a significant difference between the early mobilisation group and the usual care group with regard to the number of days patients lived out of hospital at 180 days' follow-up, In addition, the early mobilisation group experienced a higher number of adverse events, including arrhythmias, blood pressure changes and desaturation.[5] Therefore, while early mobilisation may be beneficial in some respects, the risks and benefits need to be carefully assessed before implementing this in clinical practice.

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Conflict of interest

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Response to ''Do we actively and early mobilize patients admitted to an intensive care unit during mechanical ventilation?''

Réplica a «¿Movilizamos de forma activa y temprana durante la ventilación mecánica a los pacientes ingresados en una unidad de cuidados intensivos?»

As intensive care unit (ICU) physiotherapists, we would like to point out some of the aspects commented on in the letter to the editor published in Enfermería Intensiva about the active and early mobilisation of patients admitted to the ICU undergoing mechanical ventilation.

The letter states that the TEAM study[1] investigated the effects of early mobilisation in ICU patients undergoing invasive mechanical ventilation. Although no significant differences in survival were found, it was noted that early mobilisation did not improve quality of life or function in surviving patients. It is noted that the study has limitations in terms of generalisability of the results and the restrictive definition of early mobilisation used. Although previous research has shown benefits of early rehabilitation, this particular study found no significant difference in long-term survival and showed a higher number of adverse events in the study group. In conclusion, it underlines the importance of careful risk-benefit assessment before implementing early mobilisation in clinical practice.

A review of the literature shows that early mobilisation (EM) appears to be safe with a low incidence of reported adverse events.[2]

A study involving more than 5000 physiotherapy sessions reported 34 possible safety events, of which only four required treatment, indicating a low proportion of adverse effects.[3] However, in a systematic review by Schmidt et al.[4] that examined 8492 EM sessions, 104 adverse events related to oxygen desaturations, arrhythmias, ventilator-patient asynchronies, falls or instability, blood pressure changes, catheter loss and one case of Achilles tendon rupture were reported. Although these events occurred in a very small number of sessions (less than 1%), they were significant, highlighting the importance of patient monitoring by trained staff.

Analysing the TEAM[1] study solely on the basis of its conclusions is confusing. Knowledge of the methodological aspects and study limitations is required in order to establish an optimal criterion on the subject.

The patients included in the üsual care groupc̈ontrol group received the degree of mobilisation according to the IMS scale (ICU Mobility Scale) normally received in the units where they were admitted. Mobilisation in this group follows the standards recommended in the international guidelines for early mobilisation.[5]

Furthermore, in the ëarly mobilisation group, the highest degree of mobilisation according to the IMS scale that the patient can safely perform is encouraged and maintained for as long as possible. This level is applied suddenly without prior adaptation.

Because of the methodology described above, we cannot assume that the intervention carried out in this study is representative of standard clinical practice or of the results obtained in previous research. Therefore, it is necessary to analyse with caution both the results and the conclusions obtained.

The fact that the intervention group experienced a higher percentage of adverse effects (9.2% compared to 4.1% in the control group) is a highly predictive indicator that increased early mobilisation similar to that applied in the intervention group of the study may have negative effects on the critically ill patient. Thanks to this finding, we can begin to determine the maximum limit of activity of our patients. More studies are needed to establish optimal training loads and confirm levels that should not be exceeded.

Consequently, it cannot be stated that early mobilisation has negative effects on critically ill patients. The increase in adverse effects in the intervention group is related to a higher intensity that has not been observed in previous studies.

Nor can we ensure that the mobilisation standards set internationally and observed in the control group of said study are met in the Spanish ICUs. The MOViPre study, carried out in 80 ICUs in Spain in 2017, which also used the IMS to record the degree of mobility, showed that active mobilisation out of bed was only carried out in 9.9% of the 10,046 patient-days analysed, whilst exercises in bed or passive transfer accounted for 45.6%. Patients were immobile 42.2% of the days.[6]

Current work must be aimed at improving this situation, promoting multidisciplinary teams with clinical experience, time, and optimal resources to carry out this task.

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