

LETTERS TO THE EDITOR

Prevention of skin injuries associated with non-invasive mechanical ventilation[☆]



Prevención de lesiones cutáneas asociadas a ventilación mecánica no invasiva

Dear Editor,

In volume 28 of *Enfermería Intensiva* (January–March 2017) recommendations by experts were published on the “Prevention and treatment of skin injuries associated with non-invasive mechanical ventilation”.¹ The guide that it contains to improve the quality and utility of care in intensive and coronary units as well as in other department is highly interesting. There can be no doubt that non-invasive mechanical ventilation (NIMV) is a procedure that is used increasingly and which has been shown to be effective in the initial treatment of acute respiratory failure.¹ Achieving a correct adaptation of the procedure increases the tolerability of the treatment together with adherence to it, thereby reducing morbimortality; it is here that the work of the nurse is of key importance.²

To concentrate on the skin, the pressures exerted by the interface as well as the flow and constant leaks intrinsic to NIMV create a high risk of deterioration of skin integrity. The correct management of the interface to ensure patient comfort is therefore associated with the success of NIMV.^{1,2}

Within the context of the doctoral thesis “Nursing care in critical patients with non-invasive mechanical ventilation”² a clinical trial was undertaken in Spain³ that was published in March 2017. This 4-arm study analyses the prevention of facial ulcers in patients with NIMV—under acute treatment—in a high dependency unit belonging to the Emergency and Critical Care Department of the Hospital General Universitario Gregorio Marañón, Madrid, Spain. Always using an oronasal interface, this randomised clinical trial analyses the deterioration of facial skin. It compares direct application to the application of an

ultrafine adhesive polyurethane foam dressing (ATD), an adhesive multiple layer hydrocellular foam dressing (AFD) and the application of hyperoxygenated fatty acids (HOFA). The results obtained (No. = 152), with the application of an average of 14.48 h of NIMV and a score on the NORTON scale of 10.69, show that the HOFA achieve the best prevention of skin deterioration and the appearance of sores.³

The paper published in your journal¹ concludes that the zones exposed to pressure and friction must be protected by polyurethane foam dressings and silicon adhesive, or hydrocolloid dressings when the only risk is friction. Nevertheless, the results of the randomised clinical trial show that the application of HOFA every 4–6 h reduces the incidence of facial sores. In fact it would only be necessary to treat 5 patients to see the effect of HOFA (NNT = 4.76) in the 4 arms analysed.

Considering that this update may be highly interesting for intensive care and coronary unit nurses; and acknowledging the quality of the published study (although subject to the principle of causality,⁴ as the review took place up to August 2016), we would be grateful if this contribution is considered with the aim of adding to knowledge, being of use in improving care and also generating new lines of research that increase the degree of evidence for our procedures.

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Letter to the editor in response to "Prevention of skin injuries associated with non-invasive mechanical ventilation"[☆]



Carta al director en respuesta a «Prevención de lesiones cutáneas asociadas a ventilación mecánica no invasiva»

Dear Editor,

Valued Dr. Otero requested that the results of his study¹ be included in our publication.² As we specify in the methodology of our paper, it is a review of the bibliography which ended in August 2016, while his clinical trial was published 9 months later. Reviews are subject to the same factors as clinical practice guides, as after publication new diagnostic and treatment methods may emerge, so that it is necessary to make regular revisions.³ Due to this reason, reviews show clearly delimited time intervals that make it clear which papers may be selected.

It is true that his paper helps to generate high-quality evidence, given that it is based on a randomised clinical trial. However, GRADE⁴ methodology would have to be used to evaluate whether there are any distortions that may lower the quality score of the estimation of the effect of hyperoxygenated acids. These may include the non-concealment of the randomisation sequence, the lack of blindness, excessive losses during follow-up and the lack of analysis based on intention to treat, among others.

It is precisely because of the lack of clinical trials found in our review of the bibliography (only 5 of 30 papers, of which 3 were not randomised), as we pointed out in our paper, that it is impossible to use the GRADE⁴ methodology to formulate recommendations and procedures for expert consensus.

We understand that your contribution regarding the use of hyperoxygenated fatty acids to prevent pressure/friction sores associated with non-invasive mechanical ventilation

opens the door to new possibilities for prevention. Nevertheless, we disagree with the use of the scale of Norton et al.⁵ to stratify the risk of suffering pressure sores in critical patients, recommending Braden's scale.⁶ This is validated for this population and moreover, critical patients with a low score in the "friction and risk of lesions" sub-scale are at 2.5 times greater risk of suffering a lesion.⁷

We sure that in future reviews of lesions associated with clinical devices, as well as when preparing clinical practice guides connected with this subject, such as those by the EPUAP,⁸ your paper will be included and appreciated by the scientific community, so that it can be compared with the methods used to date.

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