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PREVENTION OF PRESSURE ULCERS IN NASAL BRIDGE DURING NON-INVASIVE MECHANICAL VENTILATION. DISCUSSION OF RESULTS

Editor,

We would like to discuss the results achieved in the study by Bishopp et al. recently published in Ulster Medical Journal in which strategies for skin care during non-invasive mechanical ventilation were suggested.[1] The discussion of this study refers to a limited protective benefit of hyperoxygenated fatty acids in a study carried out by our team and also suggested that our sample was too limited to draw conclusions.[2]

We would like to refute the suggestion that our study, "Preventing facial pressure in patients under non-invasive mechanical ventilation: a randomized control trial" has a small sample size.[2] Our study had a methodology with calculation of statistical sample size [3], declared in the article and in previous protocols, by a previous piloting with 40 patients (10 in each group). The piloting allowed a pre-analysis for the size calculation of the effect estimated in 15.8%.

In the case of our clinical trial, the result of the number of the sample calculated is 152 patients in total among the four study groups, making replacement of the losses as can be seen in Fig. 1 of our article. The sample has been calculated so that the results can be considered, assuming the size of the effect described, a statistical power of 80% ($\beta = 0.20$) and a confidence level of 95% ($\alpha = 0.05$).

For all these reasons, we consider it important to emphasise our results and suggest care strategies based on the application of hyperoxygenated fatty acids and /or essential oils every 4-6 hours in the contact areas of the interface during non-invasive mechanical ventilation, following advice in recent results published on the same line. [2,4]

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PREVENTION OF PRESSURE ULCERS IN NASAL BRIDGE DURING NON-INVASIVE MECHANICAL VENTILATION. DISCUSSION OF RESULTS. AUTHORS' RESPONSE TO PEÑA-OTERO ET AL.

Editor,

We would like to thank Peña-Otero et al. for their attention to our paper on the preventative effect of hydrocolloid dressings on nasal bridge pressure ulceration in acute NIV in the UMJ[1]. It was not our intention to demean by any means the study by Otero et al.[2] by mentioning that it was a small sample study. We have used the expression 'small sample sizes' generically referring to two other papers[3,4] without any indication of the power analysis involved alongside the paper by Otero et al.[2] However, we would like to take this opportunity to clarify our standpoint on the question of sample size calculation in Otero et al[2]. A total sample size of 152 is determined to detect an effect size of 15.8% for the stated size and power. But this sample size is valid for comparing 76 subjects in 2 groups to be able to draw the conclusion that hyperoxygenated fatty acids (HOFA) is responsible for the preventative effect rather than split over 4 groups. The pairwise comparisons as stated in Otero et al.[2] require a larger sample size in each group to achieve the required power of 0.8. However, we strongly feel that the study in Otero et al.[2] is a significant study in the area of prevention of nasal bridge pressure ulceration and we are indebted to them for a pioneering research in the field of the practical application of NIV.

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