Vitamin C may shorten ICU stay : [eLetter]

Hemilä, Harri

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Vitamin C may shorten ICU stay

- Harri Hemilä, Adjuct professor University of Helsinki

The paper by Sheikh and Horner [1] does not properly describe the context for vitamin C.

Fourteen trials have investigated the effect of vitamin C against post-operative AF (POAF), and significant heterogeneity has appeared between studies carried out in the USA and outside of the USA [2]. In 9 non-US studies vitamin C decreased the incidence of POAF on average by 46% ($P<0.00001$), but no benefit was seen in 5 US studies.

In 5 non-US studies, intravenous vitamin C shortened the duration of hospital stay on average by 16% and by 1.47 days ($P<0.00001$). In 7 non-US studies, oral and intravenous vitamin C shortened the duration of ICU stay on average by 7% ($P=0.002$)[2]. Thus, there is strong evidence from randomized trials indicating that vitamin C may influence the duration of hospital stay and ICU stay in some contexts. It is not reasonable to restrict to mortality as the only outcome of interest [1], when considering potential effects of vitamin C on ICU patients.

Sheikh and Horner do not mention that sometimes vitamin C levels are very low in hospital patients. For example, in one study 18 patients with clinical symptoms of scurvy were identified out of 145 consecutive patients [3]. Scurvy has been reported also in modern ICUs [4].

In their clinical scenario, Sheikh and Horner described a patient with pneumonia, but ignored the association between vitamin C and pneumonia. Vitamin C deficiency increases the risk of pneumonia, and pneumonia decreases vitamin C levels in the body [5-7]. Thus, it would be unscientific to argue that the vitamin C level of a pneumonia patient is an uninteresting issue.

I agree with Sheikh and Horner that further trials are required to investigate the role of vitamin C in sepsis [1]. However, while waiting for such trials, it is reasonable to measure vitamin C levels of ICU patients and administer vitamin C to those who have low levels.

1. https://doi.org/10.1136/emermed-2018-207608.3
2. https://doi.org/10.1186/s12872-017-0478-5
3. https://www.ncbi.nlm.nih.gov/pubmed/20617280
4. https://www.ncbi.nlm.nih.gov/pubmed/21426466
5. https://doi.org/10.1177/014107680710001109
6. http://dx.doi.org/10.1002/14651858.CD005532.pub3
7. https://helda.helsinki.fi/handle/10138/20335

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None declared.