Correspondence

Dyspnea and Risk of Death in Ebola Infected Patients: Is Lung Really Involved?

TO THE EDITOR—We read with great interest the article of Barry et al, published in a previous issue of this journal. In this observational cohort study of Ebola patients, authors identified difficulty breathing as an independent predictor of death (adjusted odds ratio [OR], 5.75; P = .1) [1].

In the discussion, the authors postulate that difficulty breathing could be linked to parenteral rehydration that could lead to edema in patients with respiratory disease. The authors did not provide data to support it. In our point of view, this hypothesis is not supported by local experience. Pulmonary edema may be favored both by vascular leakage syndrome and fluid replacement if it is massive. A case report of a healthcare worker who contracted Ebola infection in Sierra Leone and was airlifted to a German intensive care unit showed that pulmonary edema may occur late in the disease after massive rehydration [2]. In an Ebola treatment center, providing intensive care is very challenging due to the number of patients, heavy climatic condition, and lack of medical staff, which seriously limits the time spent at the patient’s bedside. Working in personal protective equipment is also a barrier in providing accurate care and may complicate vascular access in dehydrated patients. As a result, all of these factors limit seriously the crystalloid volume that could be perfused to Ebola patients. In a previously published study regarding the Donka center, it was described that the median crystalloid volume that could be perfused to Ebola patients was 1 liter. In a previous study of 9 consecutive patients, we did not find elevated ventricular filling pressure in any patients, even in dyspeptic patients.

Difficulty breathing has been reported for years in Ebola patients. Previous studies described a “sine materia” dyspnea, suggesting that dyspnea could be the symptom of another organ dysfunction [4]. Others causes of dyspnea such as muscle weakness, encephalitis, and metabolic acidosis remain to be explored. Unfortunately, biological data are poor on the actual Ebola outbreak to describe objectively the organ dysfunctions. However, metabolic acidosis may be one of the key points in the Ebola infection course and has been reported in some patients [3]. It might be promoted by several factors such as bicarbonates loss during diarrhea, acute kidney injury, and lactic acidosis during the late shock phase.

Finally, difficulty breathing in Ebola patients should probably be linked to metabolic disorders rather than pulmonary aggression. Paraclinical data are required to clearly identify the organ dysfunctions during Ebola virus disease.

Note

Potential conflicts of interest. All authors: No potential conflicts of interest.

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