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Acute mesenteric ischemia, procalcitonin, and intensive care unit

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For the AzuRea Network.

Dear Editor,

We would like to thank Dr. Cossé and colleagues for their interest in our study [1]. As they underlined, we provided only an overview of the outcomes of intensive care unit patients with acute mesenteric ischemia. The study was not designed to look at the effect of damage localization or ischemia etiology on mortality. This issue was discussed in the limitation paragraph of our discussion. It was the first study focusing on intensive care unit patients. In those patients, our purpose was to predict outcome before performing surgery.

In our study, we showed that plasma lactate levels performed moderately for identifying the severity of patients with acute mesenteric ischemia. This is an important finding, since plasma lactate levels are often discussed in the decision to undergo (or not) surgery. The use of biomarkers that would perform better than lactate is promising. Cossé and colleagues suggested that procalcitonin would be a kind of “magic bullet” in this disease [1]. They recently published an interesting retrospective study showing that

procalcitonin may help to determine prognosis with a gray zone ranging from 2.56 and 10.82 ng/mL [2]. The cohort included only surgical patients undergoing exploratory laparotomy. Using PubmedTM, the level of evidence supporting the use of procalcitonin relies on three retrospective studies [2–4]. In order to predict mortality, the thresholds of plasma procalcitonin levels were at 40, 20, and 7.8 ng/mL, respectively [2–4]. With regard to the dispersion of these thresholds, one can wonder about the consistency of this biomarker.

In routine practice, procalcitonin performs differently in patients admitted to the emergency department, intensive care unit, or surgical ward [5]. For instance, procalcitonin seems an excellent biomarker of infection in the emergency department, whereas data extracted from intensive care units are less convincing [5]. In the intensive care unit, the high prevalence of infection and renal function impairment may interfere with the effects reported in surgical patients with acute mesenteric ischemia [2].

In conclusion, the putative benefit of this biomarker remains unclear for patients hospitalized in the intensive care unit. The interference of infection and inflammation may enlarge the gray zone, making this biomarker irrelevant. Cossé and colleagues should be encouraged to provide convincing data supporting their preliminary findings in specific groups of patients.

Conflicts of interest The authors have no conflict of interest to disclose.

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