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Reply to the comment on "Terlipressin in chronic hyperdynamic endotoxic shock: Is it safe?"

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Sir,

In their letter Drs De Keulenaer and Stephens provide interesting information related to the use of terlipressin in a patient with an acute myocardial infarction and severe refractory shock. As they did, we have carefully examined the paper by O'Brien et al. [1]. In that paper the term of severe refractory shock is debatable. Indeed, the mean norepinephrine dose was 0.59 μg/kg min^{-1} with a mean arterial pressure of 52 mm Hg. The same question may be addressed from the paper by Tsuneyoshi et al. (norepinephrine infusion rate between 0.2 and 0.3 μg/kg min^{-1}) [2]. The infusion of terlipressin in bolus infusion allowed a marked decrease in norepinephrine requirements. However, can a reduction of norepinephrine be considered as a therapeutic goal per se? Neither O'Brien et al. [1] nor Drs De Keulenaer and Stephens reported digital, splanchnic clinical signs of ischemia (abdominal distension bloody stool). Are these clinical signs accurate markers of a threatened splanchnic circulation? Certainly not. More accurate data are needed to assess beneficial- and side effects of vasopressin and or terlipressin in our patients. Because it is difficult to address all the questions in clinical studies, we assessed the effects of low dose of terlipressin on global and splanchnic hemodynamics in a hyperdynamic endotoxic rat model. We demonstrated in this rodent model that terlipressin significantly increased mean arterial pressure without decreasing aortic blood flow and heart rate. Mesenteric venous blood flow and ileal mucosal blood flow increased in endotoxic-fluid-challenged rats and terlipressin had no detrimental effects on mesenteric blood flow. Terlipressin significantly increased ileal microcirculation in fluid-challenged endotoxic rats but worsened both global and microcirculatory hemodynamics in non-fluid-challenged endotoxic rats with a significantly higher mortality [3]. Although terlipressin demonstrated beneficial effects, many questions related to hepatic hemodynamics, chronic long-term effects, and metabolic effects, such as decrease in VO_2 reported by Westphal et al. [4], are unanswered and justify a conclusion [5].

References

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