CRITICAL CARE

LETTER

Permissive hypofiltration: an alternative view

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See related viewpoint by Chawla *et al.*, http://ccforum.com/content/16/4/317

Abstract

If permissive hypercapnia is used in the context of protective ventilation for patients with acute respiratory distress syndrome, it must be highlighted that the alveoli in these patients are still exposed to significant stress. Similarly, early renal replacement therapy is not necessarily a protective therapy for acute kidney injury and loop diuretics are not necessarily harmful. It is conceivable that early initiation of 'protective' low-dose (10 ml/kg/h) continuous renal replacement therapy with zero balanced ultrafiltration in association with administration of (high dose) diuretics may help to rest the kidneys while ensuring preservation of urine output.

We read with great interest the Viewpoint by Chawla and colleagues [1] addressing the intriguing physiopathological hypothesis that resting a failing organ is potentially helpful to promote recovery. The authors proposed a 'permissive' therapy for acute kidney injury (AKI) by resting the kidneys with early renal replacement therapy (RRT), somewhat similar to treatment of acute respiratory distress syndrome with early intubation and permissive hypercapnia during 'protective' mechanical ventilation. During mechanical ventilation, however, rather than being at rest, alveoli are exposed to significant stress injuries (ventilator-induced lung injury) even under 'protective' ventilation [2]. Similarly, although early initiation of RRT could be beneficial, it should be emphasized that the advantage of such therapies over a 'conservative strategy' has not been consistently demonstrated to date, and that RRT also carries the risk of significant side effects that should not be overlooked [3], as also clearly pointed out by Chawla and colleagues. This may be particularly relevant when treating very young patients, which are often challenging from the standpoints of vascular accesses and fluid balance [4]. Furthermore, early initiation of extracorporeal ultrafiltration in patients with non-oliguric AKI might cause decreased urine output, a clearly undesired and detrimental effect. On the other side, to date, it has not convincingly been shown whether loop diuretics are harmful in the setting of AKI [5] and 'for the vast majority of clinicians' they are not generally discontinued in early AKI.

For acute respiratory distress syndrome therapy, extracorporeal carbon dioxide removal associated with ultraprotective ventilation has recently been proposed [6]. With a similar approach, it is conceivable that early initiation of 'protective' low-dose (10 ml/kg/h) continuous RRT with zero balanced ultrafiltration in association with administration of (high dose) diuretics may help to rest the kidneys, while ensuring preservation of urine output. We believe that studies aimed at testing this hypothesis and establishing the best combination and doses of intravenous diuretics and 'protective' RRT are warranted.

Abbreviations

AKI, acute kidney injury; RRT, renal replacement therapy.

Competing interests

The authors declare that they have no competing interests.

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