The effect of sepsis on renal acid base transport

Summary / Zusammenfassung
Sepsis with multiple organ failure remains a leading cause of death in intensive care units, despite substantial research in this field over several decades. A common complication of severe sepsis and septic shock consists of acute renal failure. Moreover, in 50% of all cases of acute renal failure septic shock has been shown to be the main contributing factor.

Commonly, metabolic acidosis is one of the pathophysiological changes that take place in the organs of critically ill patients during sepsis. Acidosis can only partially be explained by accumulation of lactate because of inadequate organ perfusion, suggesting additional causes such as impaired renal clearance of acid equivalents.

The kidney plays a central role in controlling systemic acid-base homeostasis by reabsorbing bicarbonate, synthesis and excretion of ammonia, and regulated secretion of acid or base equivalents. In an in vivo model of sepsis renal acid-base-transporters will be evaluated and their role in an inflammatory status will be elucidated.

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