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Study: Vasopressin vs. Norepinephrine in Septic Shock

□ A multicentre trial investigating early use of vasopressin compared to norepinephrine to treat septic shock found no reduction in the number of kidney failure-free days. The results of the VASopressin vs. Noradrenaline as Initial therapy in Septic sHock (VANISH) trial are published in *JAMA* (Gordon et al. 2016).

Patients who had septic shock requiring vasopressors despite fluid resuscitation within a maximum of 6 hours after the onset of shock were randomised to vasopressin and hydrocortisone (n=101), vasopressin and placebo (n=104), norepinephrine and hydrocortisone (n=101), or norepinephrine and placebo (n=103). The primary outcome was kidney failure-free days during the 28-day period after randomisation, namely the proportion of patients who never developed kidney failure and the median number of days alive and free of kidney failure for patients who did not survive, who experienced kidney failure, or both.

Early use of vasopressin compared with norepinephrine did not improve the number of kidney failure-free days. However, the confidence interval included a potential clinically important benefit for vasopressin, and larger trials may be warranted to assess this further, the authors write. Prof. Anthony Gordon, (pictured) Imperial College London, the trial's Chief Investigator, told *ICU Management and Practice* that this potential benefit was related to the secondary outcomes measured in the trial, which related to kidney function: fewer patients in the vasopressin group needed renal replacement therapy, and they had greater urine output and lower creatinine levels over the first week. Gordon said that the results will probably not change routine first-line pressors for septic shock, i.e. norepinephrine. However, clinicians may consider starting vasopressin early in patients whose kidney function is deteriorating.

Results

409 patients (median age, 66 years)

Median time to study drug administration: 3.5 hours after diagnosis of shock

Vasopressin group

Survivors who never developed kidney failure: 57% (94/165)

Median number of kidney failure-free days for patients who did not survive, who experienced kidney failure: 9 days

Norepinephrine group

Survivors who never developed kidney failure: 93/157 patients (59%)

Median number of kidney failure-free days for patients who did not survive, who experienced kidney failure: 13 days

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