

## Insuffisance rénale

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### Dexmedetomidine and acute renal failure in non-intubated ICU patients. An ancillary study.

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#### Position du problème et objectif(s) de l'étude:

Acute renal failure is a serious and frequent event in intensive care unit patients. Several experimental studies and a few clinical studies conducted in the operating room have suggested that dexmedetomidine may have a nephroprotective effect. However, few studies are available in ICU patients.

Main objective of present study is to explore the impact of dexmedetomidine on renal function of non-intubated ICU patients with agitated delirium included in a randomized clinical trial.

#### Matériel et méthodes:

We performed an ancillary study of a double-blind randomized controlled trial in non-intubated ICU patients with agitated delirium. Princeps study had two arms: one group of patients received dexmedetomidine and the other placebo. Patients included in our ancillary study were randomized in the original study . Non-inclusion criteria were previous renal replacement therapy before inclusion or chronic renal disease. The primary endpoint of our ancillary study was the proportion of patients with acute renal failure (according to KDIGO classification) after randomization. Main secondary endpoints were the proportion of patients with acute renal failure (ARF) until D5, plasma creatinine and urine output assessed daily and until hospital discharge. Present study received approval from local ethics committee (IRB 00010254 - 2020 - 208).

#### Résultats & Discussion:

From December 2017 to February 2022, 169 patients were randomized in princeps study. One hundred and 27 patients were included in the ancillary study. There was no significant difference between the groups in the proportion of ARF at D0 (p=0.6), D1 (p=0.24), D2 (p=0.36), D4 (p=0.67) and D5 (p=0.97). A significantly lower renal failure incidence was observed at D3 in the dexmedetomidine group (p=0.044). No significant differences were found in plasma creatinine (p=0.67) and urine output (p=0.84).

#### Conclusion:

In a population of non-intubated ICU patients with agitated delirium, dexmedetomidine-treated patients did not presented lower acute renal failure episodes than placebo-treated patients during first 5 days after randomization. A slight but significant signal was observed at day 3.

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