Neuroréanimation (pronostic, DVE, Sedation)

ID: 395

Effects of dexmedetomidine on agitated delirium duration of non-intubated ICU patients. A multicenter randomized controlled trial (4D Trial)

T. Godet*(1), N.Bourguignon(2), B.Pereira(2), A.De jong(3), S.Jaber(3), M.Jabaudon(4), E.Futier(4), G.Chanques(3), J.Constantin(5)

(1) Pôle de Médecine Périopératoire, CHU de Clermont-Ferrand, Clermont-ferrand, France , (2) Department of Statistics, University Hopsitals of Clermont-Ferrand, Clermont-ferrand, France , (3) Département d'anesthésie réanimation B, University Hospital Center Saint Eloi Hospital, Montpellier, France , (4) Pôle de Médecine Périopératoire, University Hospitals of Clermont-Ferrand, Clermont-ferrand, France , (5) Department of anesthesiology and intensive care medicine, University Hospitals Pitié Salpêtrière, Sorbonne University, Paris, France

**Auteur présenté comme orateur*

Position du problème et objectif(s) de l'étude:
Delirium in intensive care unit (ICU) is frequent and associated with significant morbidity, mortality and healthcare related costs. Guidelines suggest its prevention but curative treatment remains unclear. Dexmedetomidine (D) might be a valuable candidate to treat and prevent delirium in iICU patients. Main objective is to demonstrate that D decreases agitated delirium duration in non-intubated ICU patients and their requirement of intubation compared to placebo.

Matériel et méthodes:
Investigator-initiated, prospective, multicenter, randomized, double-blinded, two-arm trial, randomizing 300 non-intubated ICU patients with diagnosis of agitated delirium to receive D or placebo. Primary outcome is a composite of duration of agitation and delirium and intubation. Secondary outcomes include 7 and 28 days mortalities, ICU length of stay and adverse effects. One year quality of life has been evaluated with SF-36. Sample size will allow the detection of a 50% decrease of agitation duration (RASS>0), an absolute reduction of delirium duration (CAM-ICU positive) and a 50% relative decrease of intubation and mechanical ventilation, with a type 1 error rate of 1.8 % and power of 90 %. Assuming a 15 % incidence of intubation and mechanical ventilation requirements, an agitation duration of 240 minutes and a delirium duration of 3 days,150 patients by group will be needed. A pre-planned intermediate analysis is scheduled. IRB 17-CHCF-02. EudraCT 2017-000731-14.

Résultats & Discussion:
A total of 151 patients underwent randomization (76 assigned to the D group and 74 to the placebo group). A significant effect was observed (-0.49 (-0.81; -0.17), p<0.0001) on main composite outcome in favor of D group compared to placebo. Items of composite outcome were as follows. Positive RASS score duration (1 [1; 2] vs 2 [1; 7] hours, p=0.001) and CAM-ICU positive (20.0 [12.0; 31.0] vs 23.5 [12.0; 41.0] hours, p =0.38) decreased in D group. No difference on intubation requirement was observed (2 (2.6%) vs 3 (4.1%), p=0.68), between D and placebo groups respectively. Due to strong statistical significance and enrollment rate decline related to non-inclusion criteria (administration of D during previous 72h and wider use during COVID-19 era), steering committee decided to stop trial after pre-planned intermediate analysis.

Conclusion:
Curative dexmedetomidine is effective at reducing a composite of delirium duration, agitation duration and requirement of intubation and mechanical ventilation. Outcome difference were driven by effective control of agitation. Analysis of full panel of secondary outcomes and one year quality of life is currently under process.

Remerciements:
The authors wish to thank paramedical and medical staff that allowed patients inclusions and collection of data.

Les auteurs déclarent ne pas avoir toute relation financière impliquant l'auteur ou ses proches (salaires, honoraires, soutien financier éducationnel) et susceptible d'affecter l'impartialité de la présentation.