

Creteil

22^{ème} Journée d'Actualités en Ventilation Artificielle



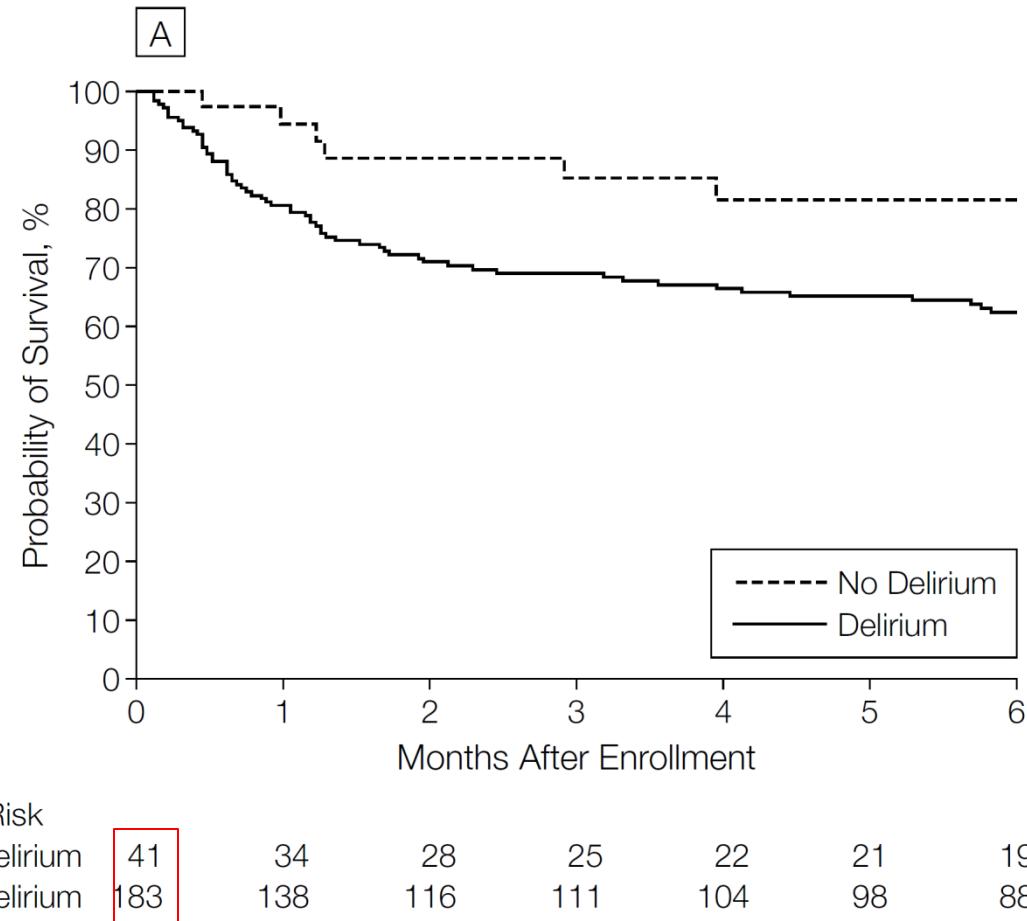
Sevrage de la ventilation: rôle du délirium

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Université Paris Est Créteil

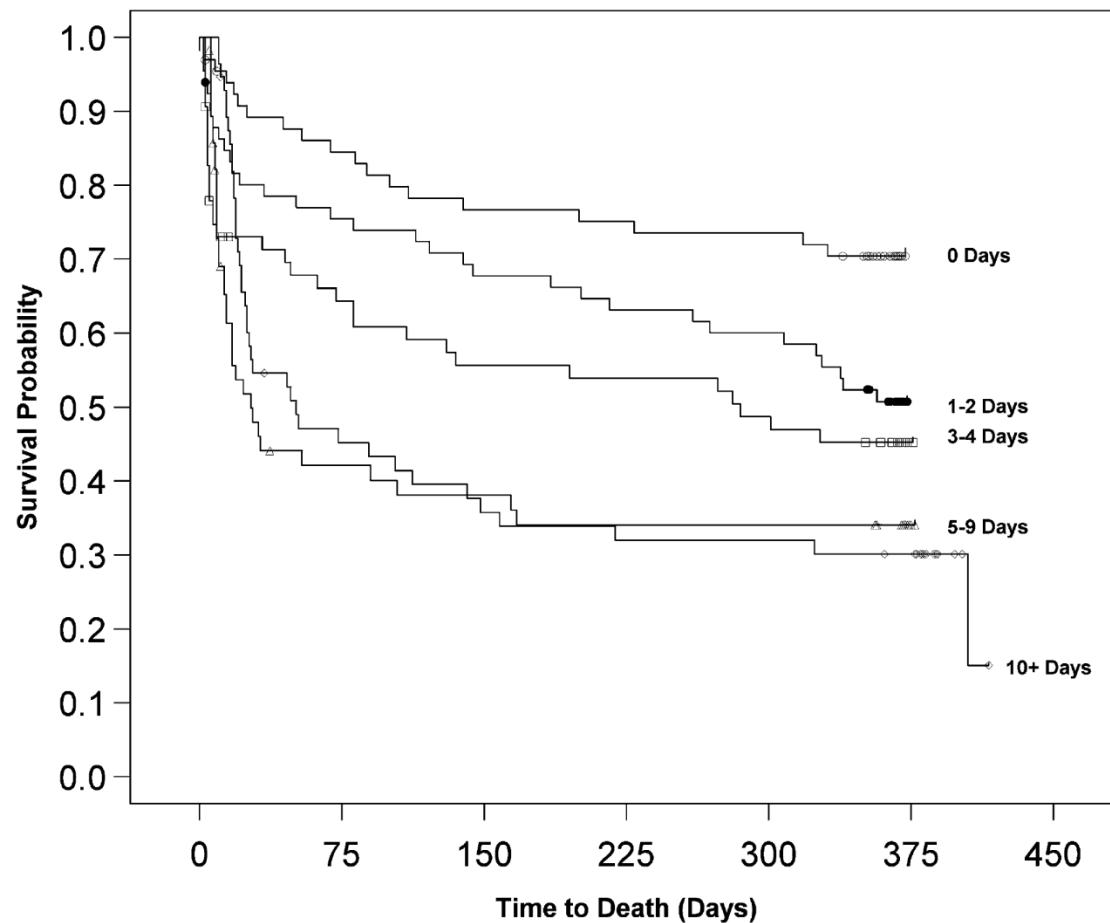
DELIRIUM EN RÉANIMATION

Pathologie fréquente et grave

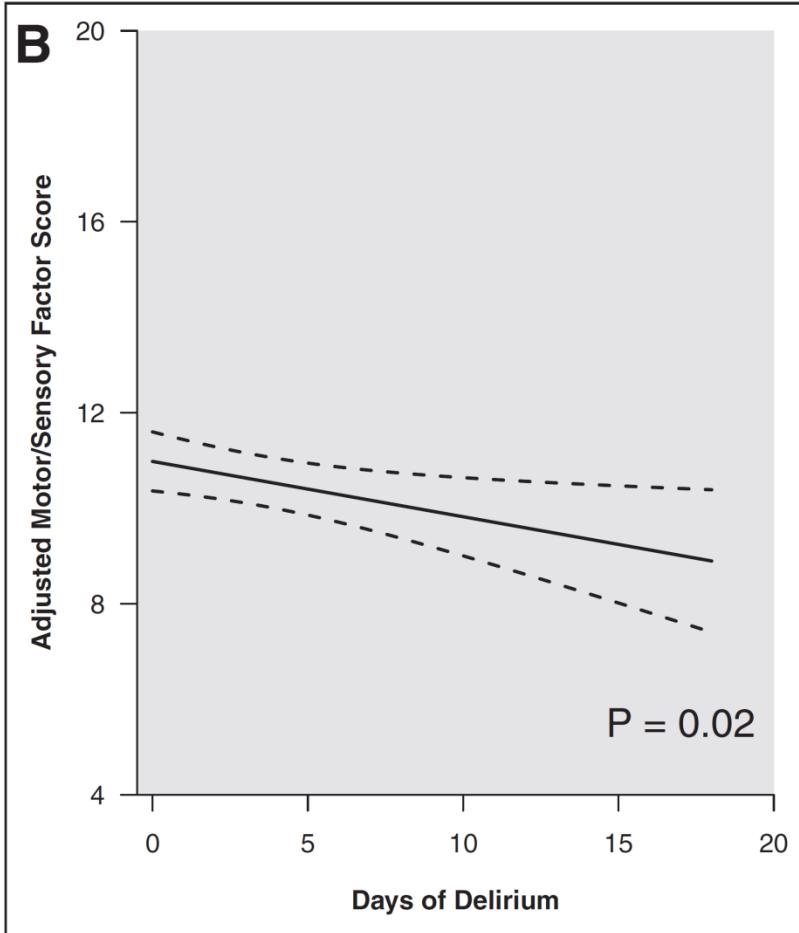
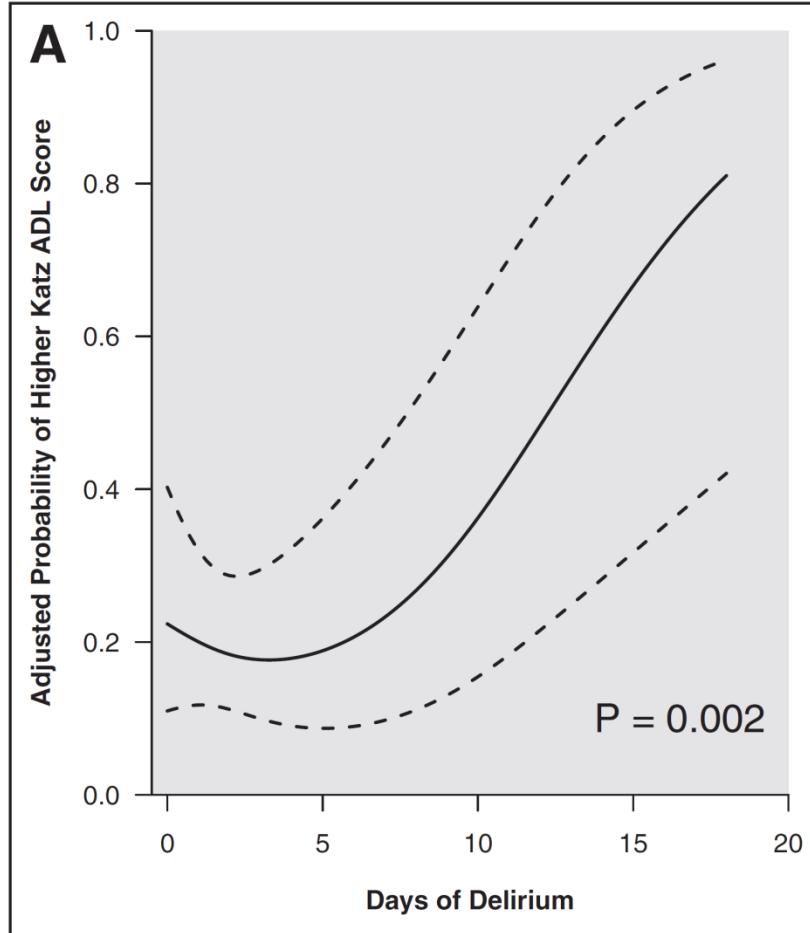


Ely, JAMA 2004

Long terme

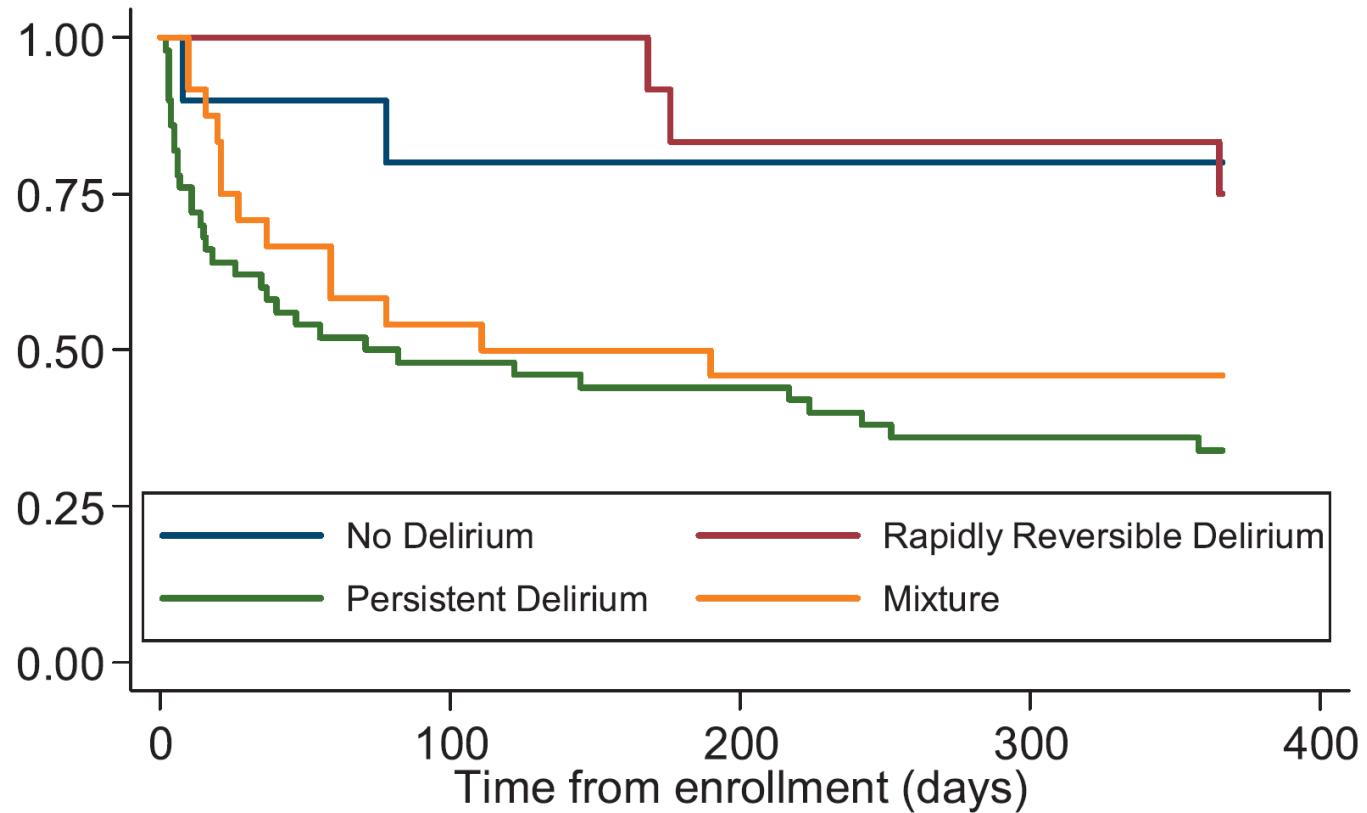


Séquelles fonctionnelles



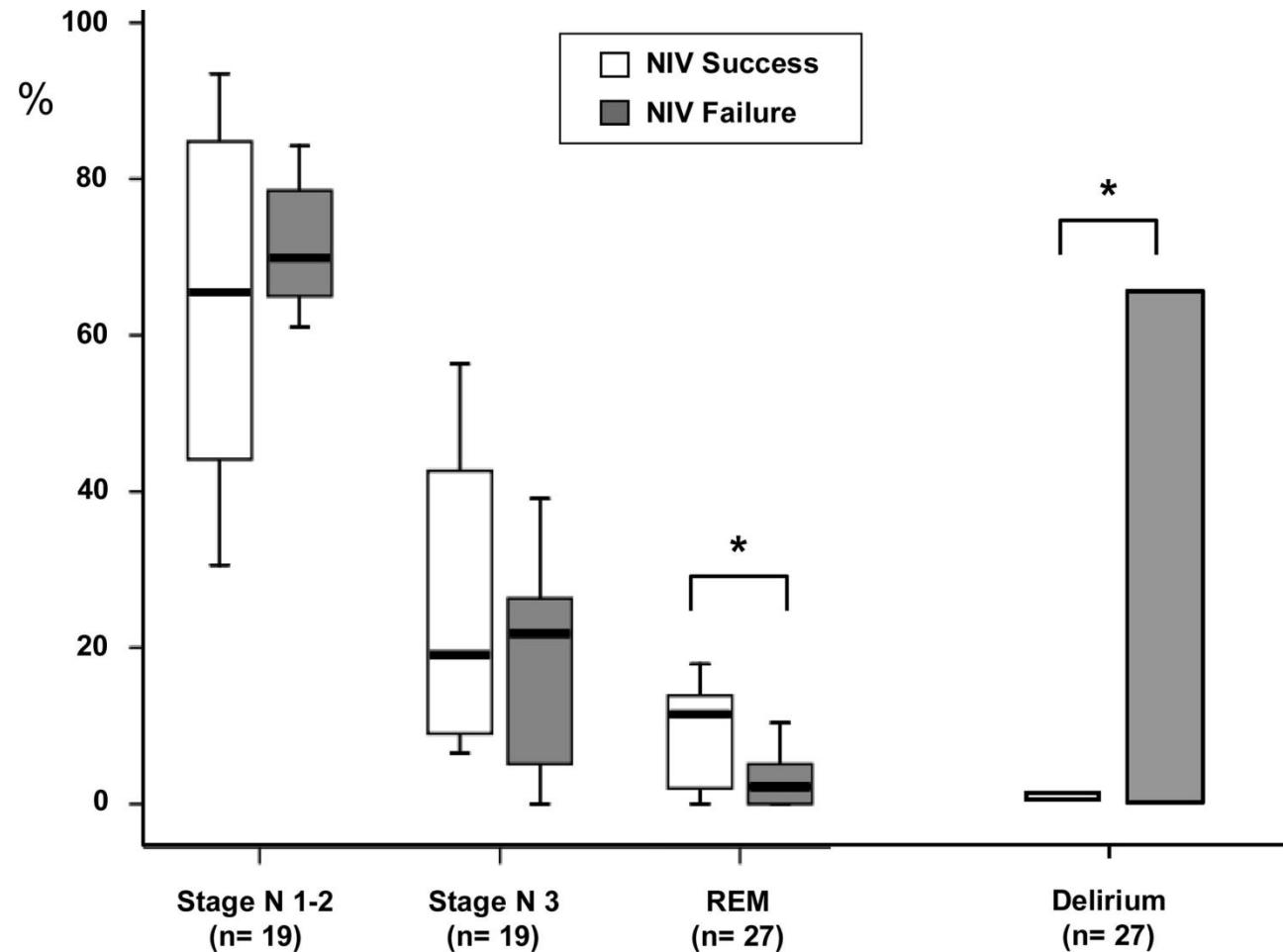
Delirium « sédatif » rapidement réversible

A

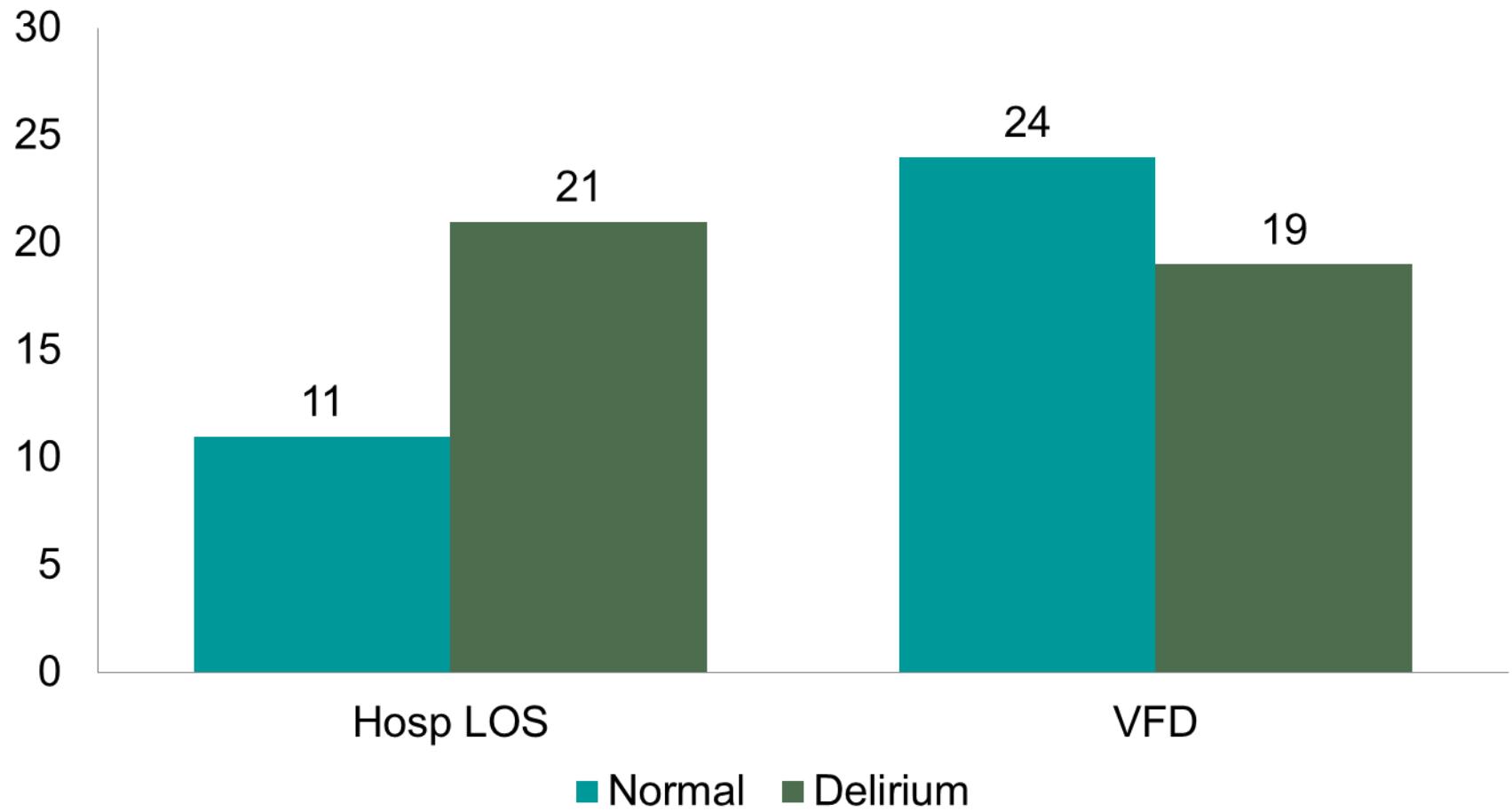


DELIRIUM ET VENTILATION

Delirium et VNI

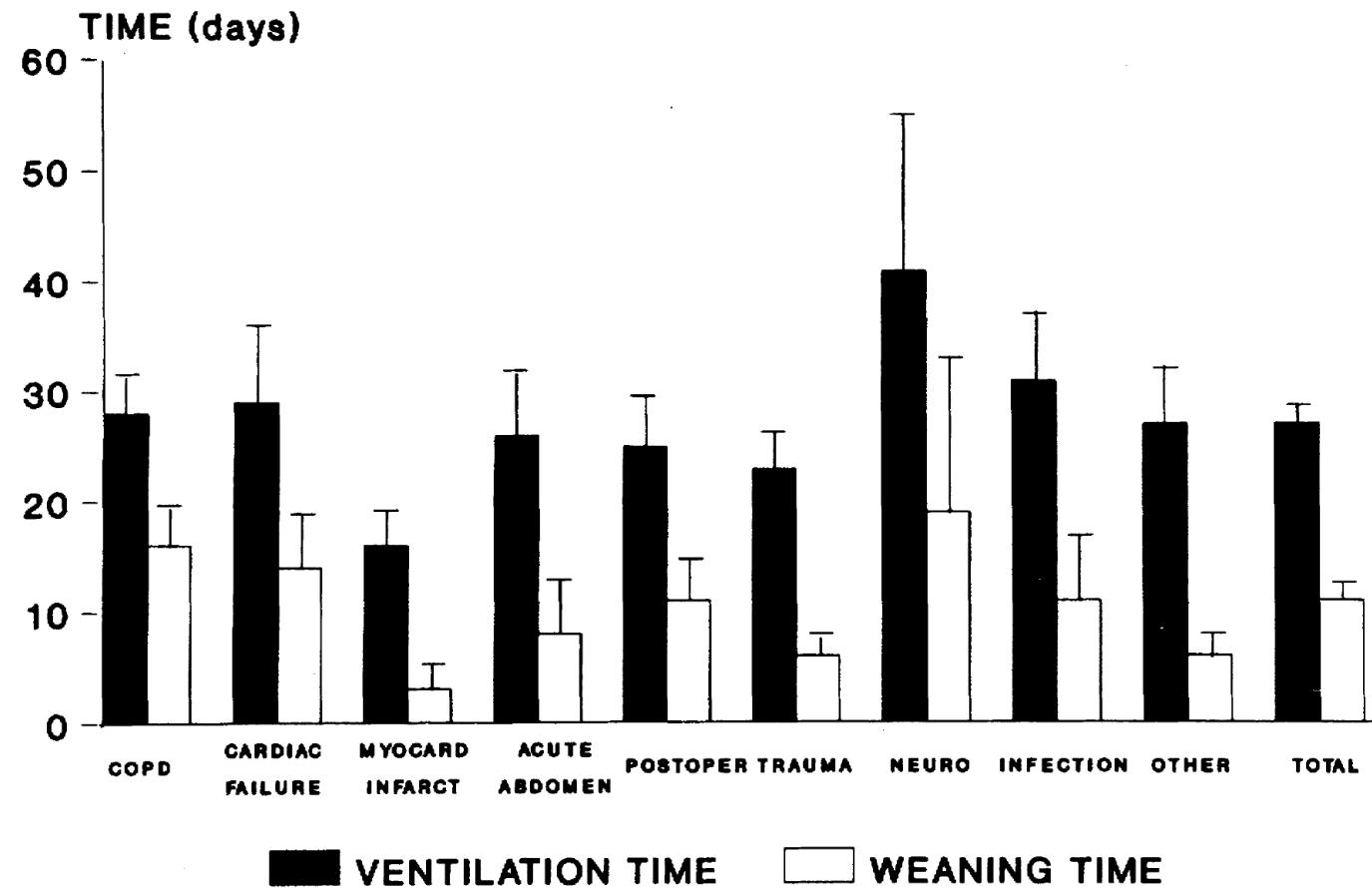


Délirium et durée ventilation



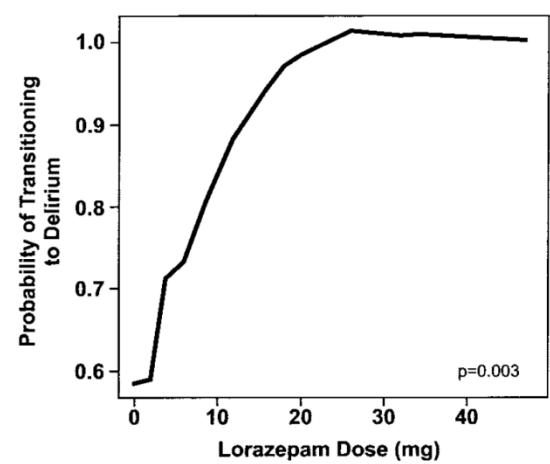
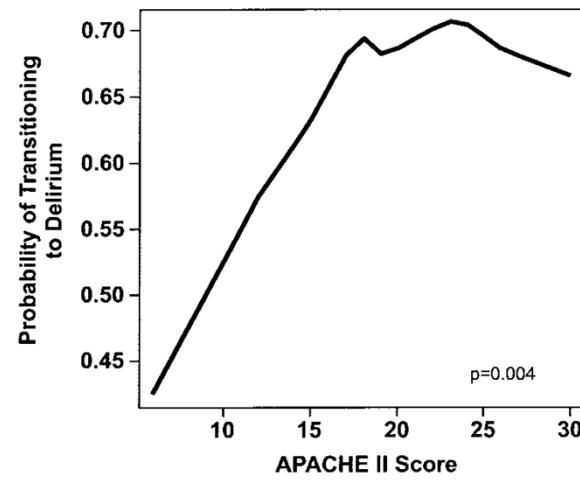
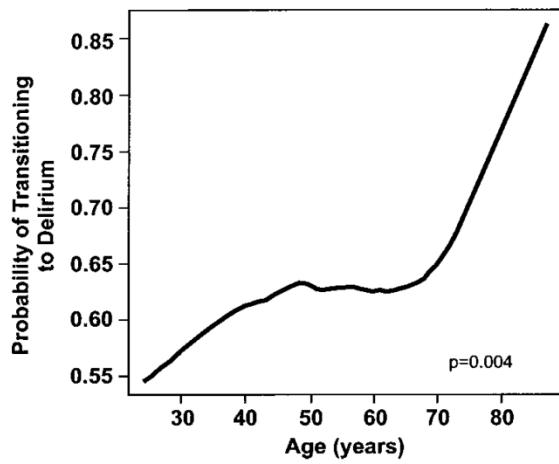
Ely, JAMA 2004

Sevrage et durée de la ventilation

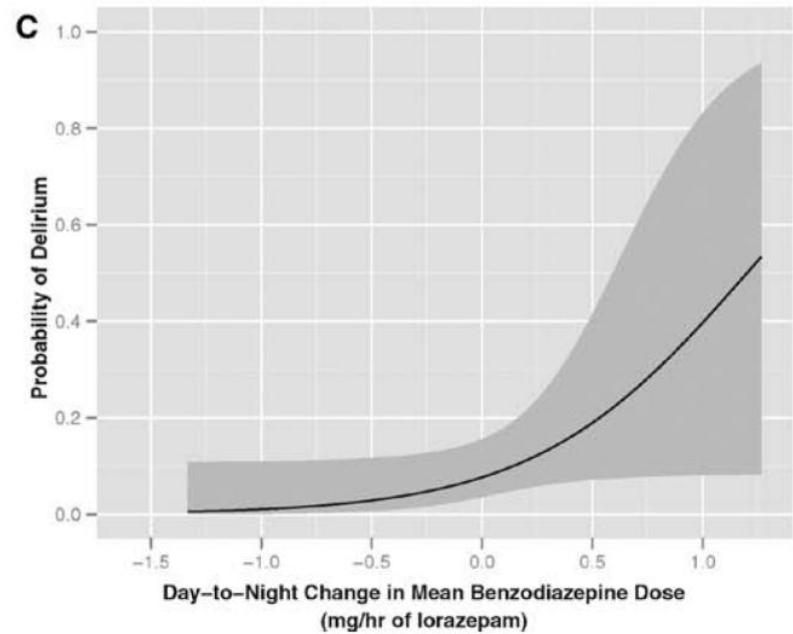
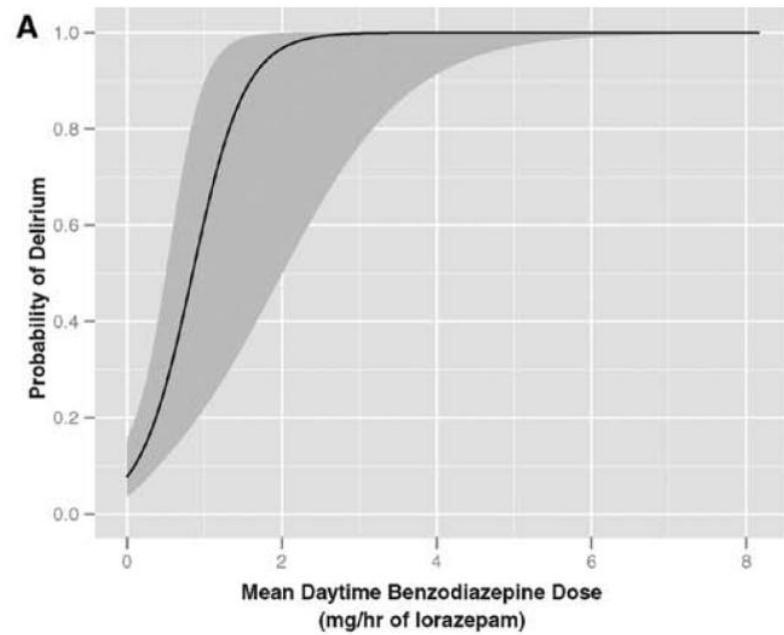


PHYSIOPATHOLOGIE DELIRIUM

Multiples facteurs de risque

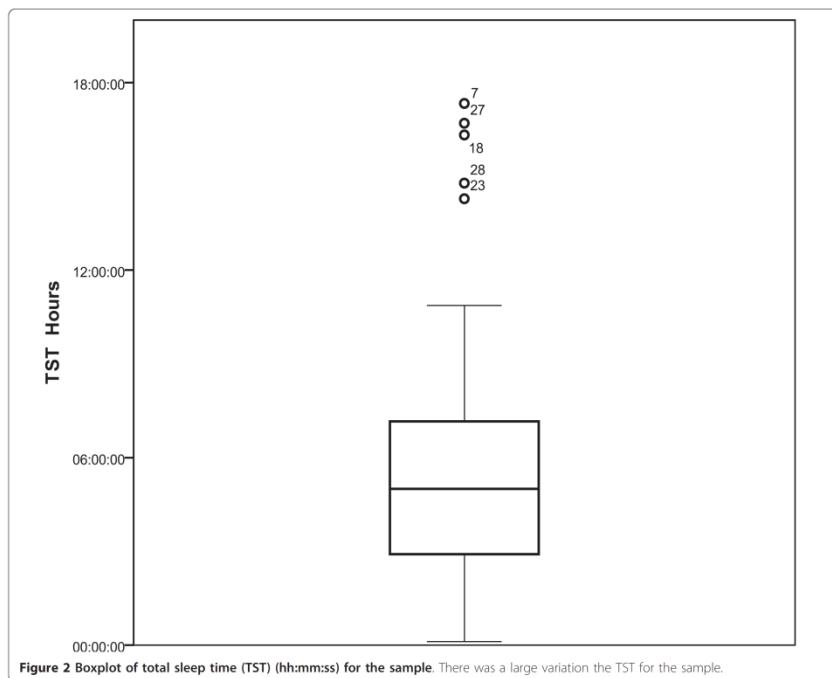


Rôle des benzodiazépines

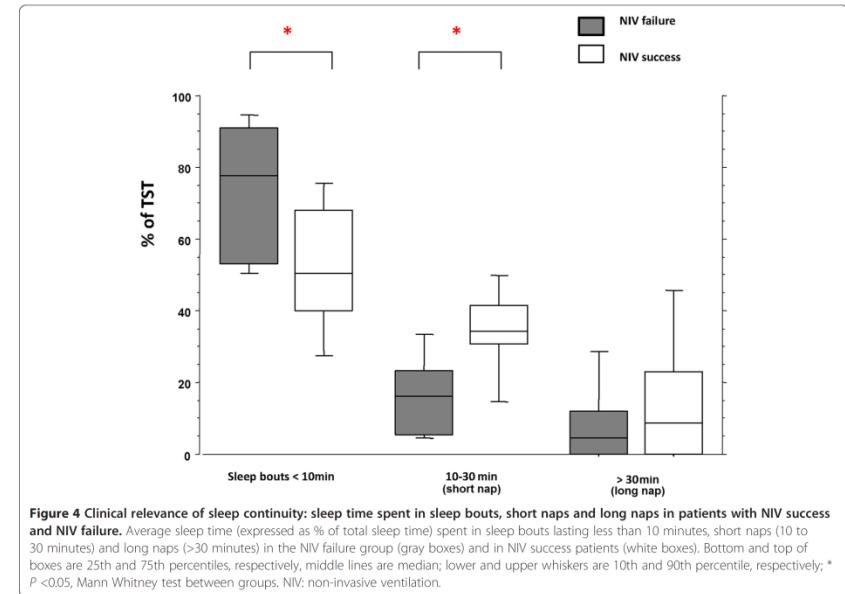


Altération du sommeil en réanimation

Quantité



Qualité



Altération du sommeil en réanimation

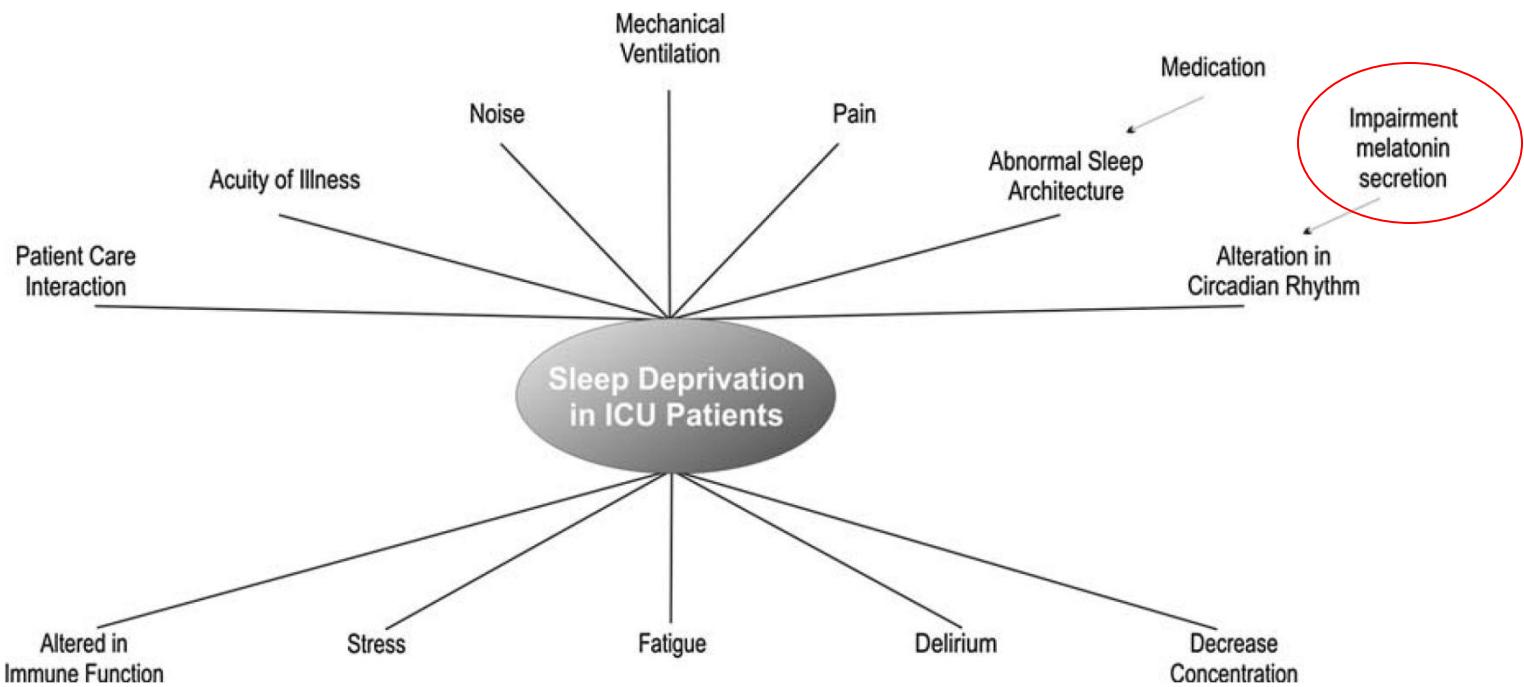
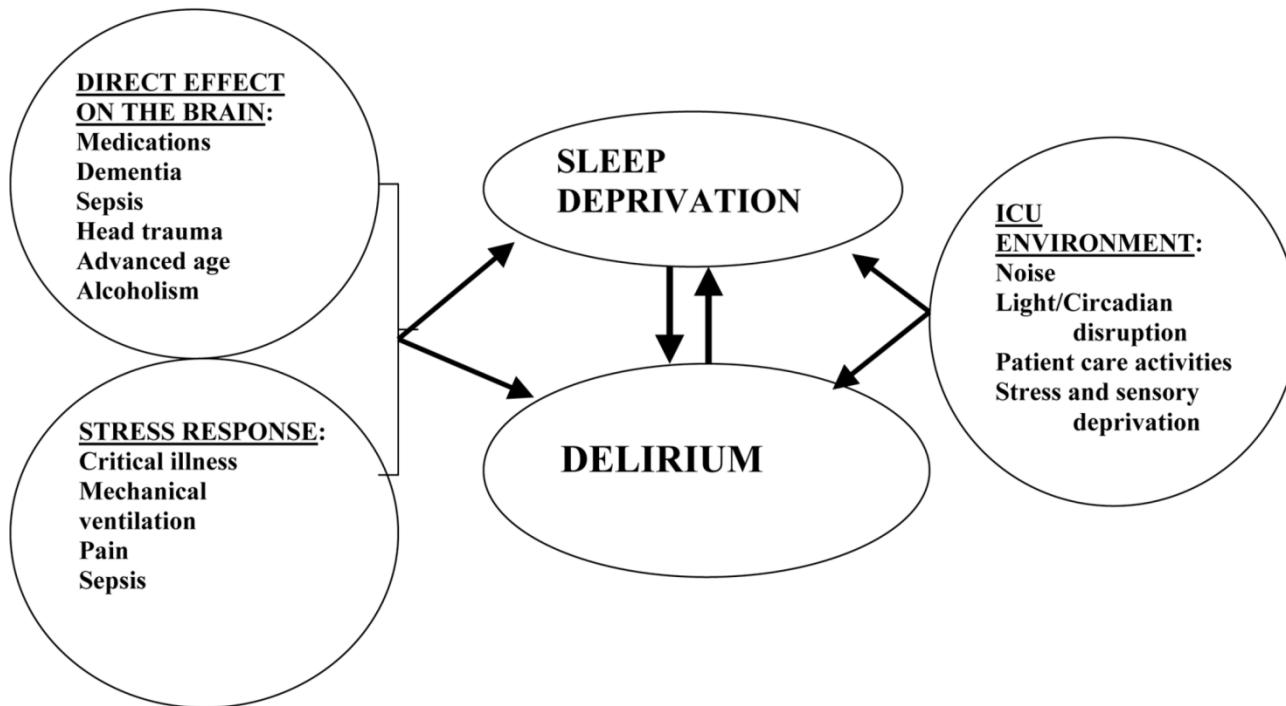


Fig. 4 Risk factors and potential outcomes of sleep deprivation in ICU patients

Délirium et sommeil



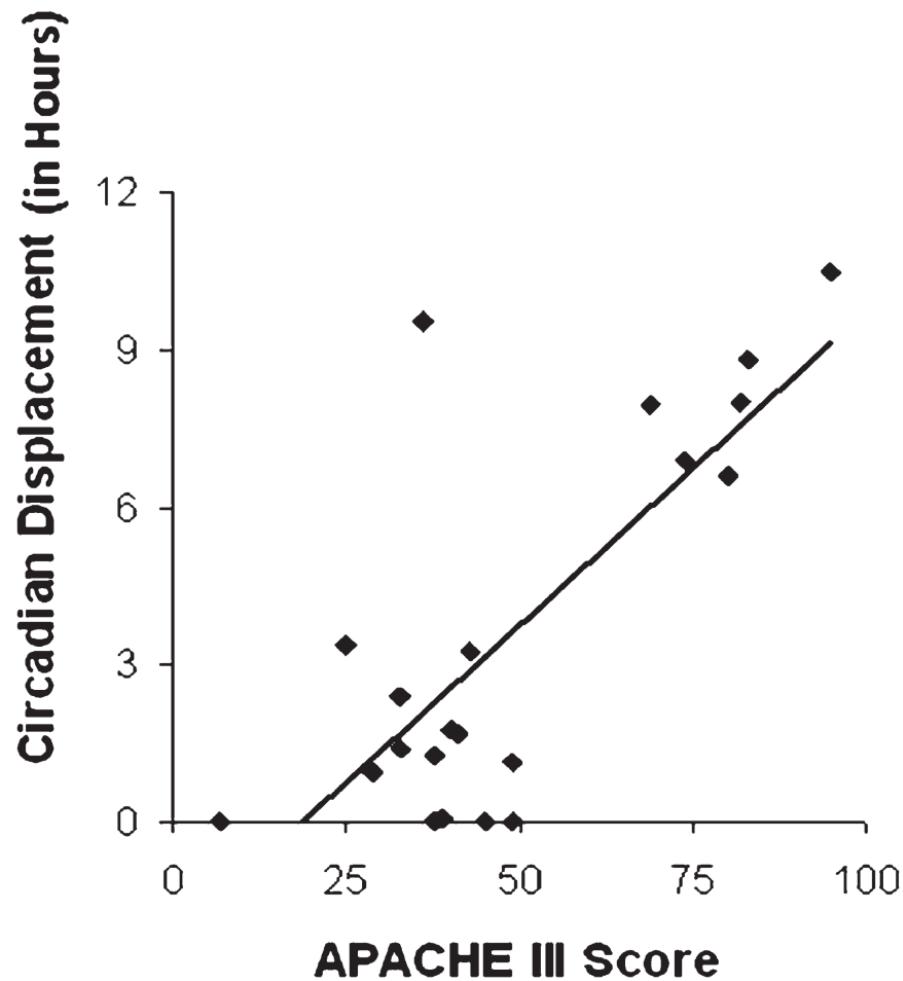
Delirium and some associated risk factors. A possible relationship between delirium and some of its associated risk factors, including sleep deprivation. ICU, intensive care unit.

Delirium et sommeil

Table 4. Factors in the Logistic Regression Model Associated With Postoperative Delirium

	Beta Coefficients	Standard Error	Wald	df	p	Exp (B) = Odds Ratio
Constant	-6.539	1.289	25.750	1	0.000	0.001
Markedly abnormal serum chemistry values	1.102	0.532	4.287	1	0.038	3.011
Sleep deprivation	1.730	0.881	3.856	1	0.05	5.642
Age	0.039	0.018	4.559	1	0.033	1.040
Operation time	0.252	0.123	4.178	1	0.041	1.287
Nagelkerke R ² = 0.128						

Rythme circadien en réanimation



Gazendam (température), Chest 2013

Rythme circadien en réanimation

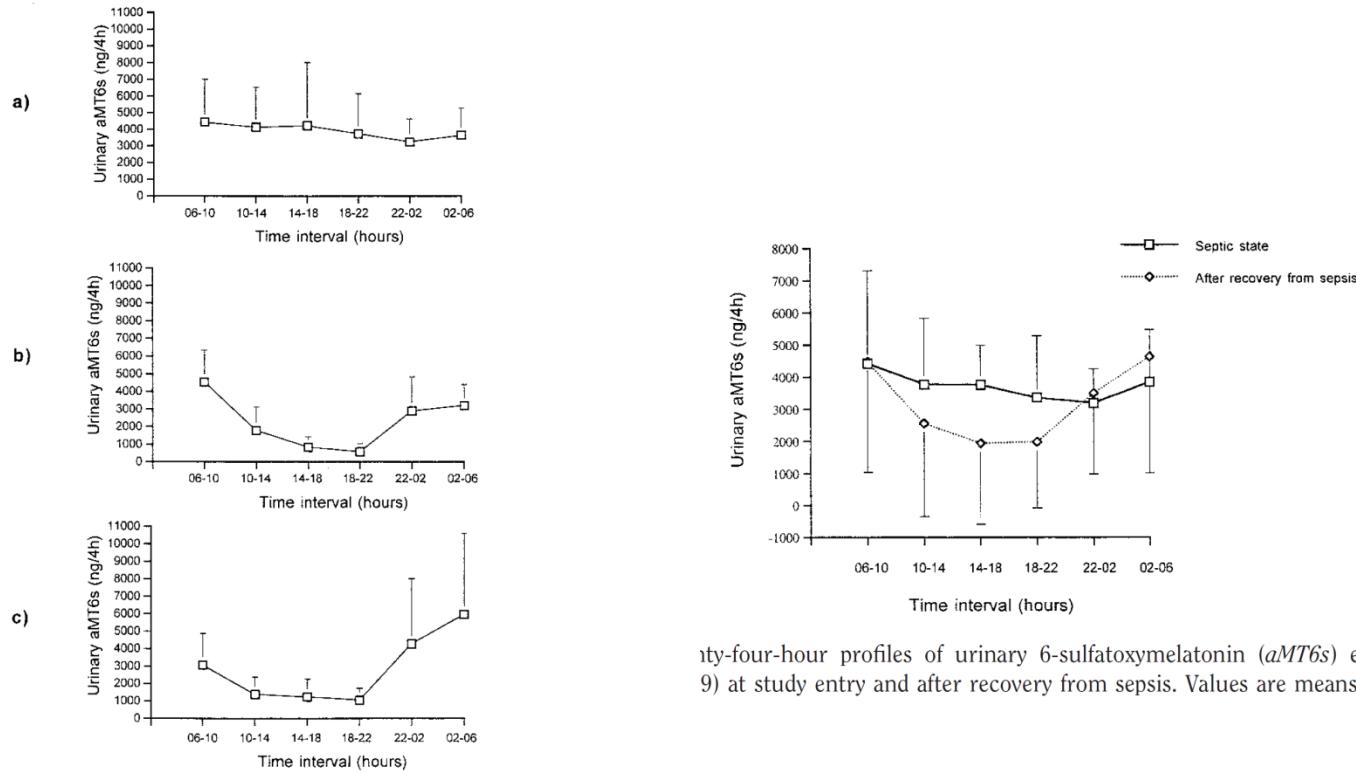
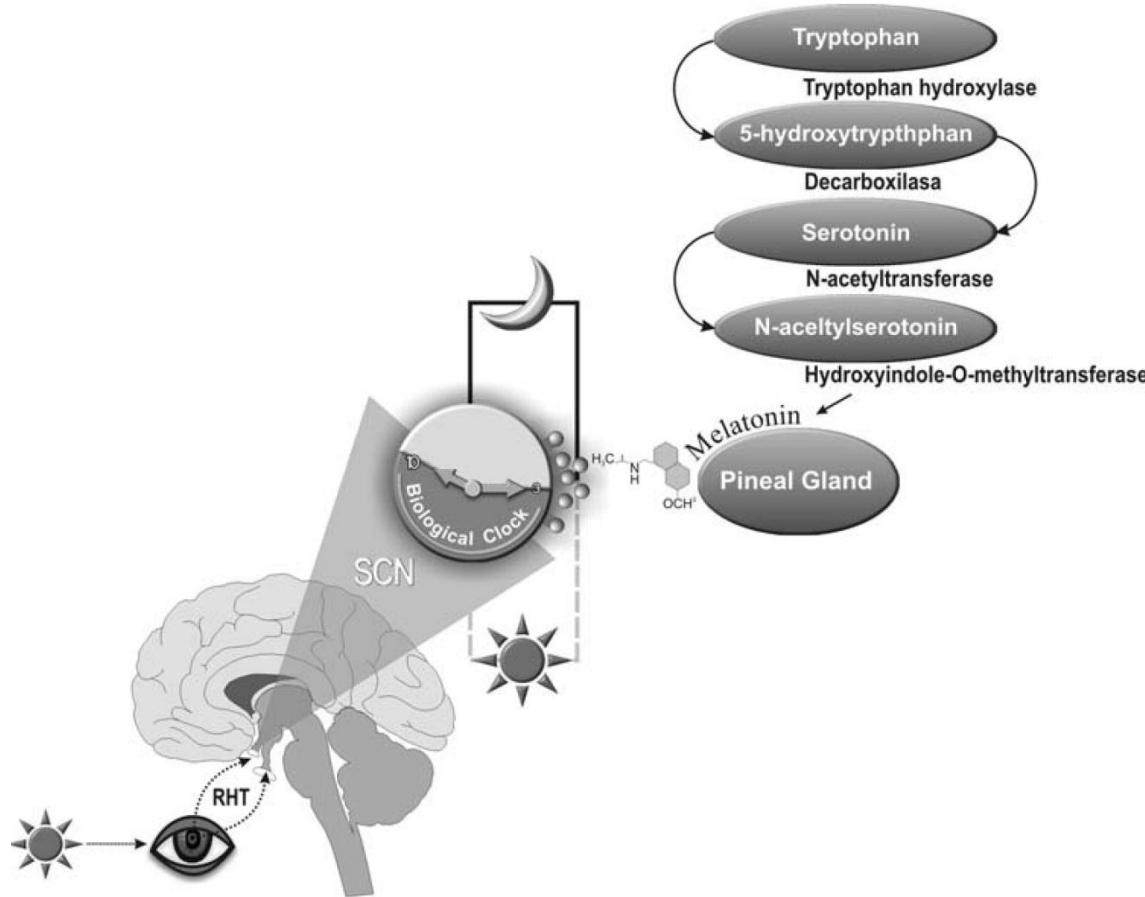


Figure 1. Twenty-four-hour profiles of urinary 6-sulfatoxymelatonin (*aMT6s*) excretion in different patient groups. Values are means \pm SD. (a) septic patients (group A); (b) nonseptic patients (group B); (c) control patients (group C).

ity-four-hour profiles of urinary 6-sulfatoxymelatonin (*aMT6s*) excretion of sepsis 9) at study entry and after recovery from sepsis. Values are means \pm SD.

Mélatonine et rythme circadien



Biologie du delirium

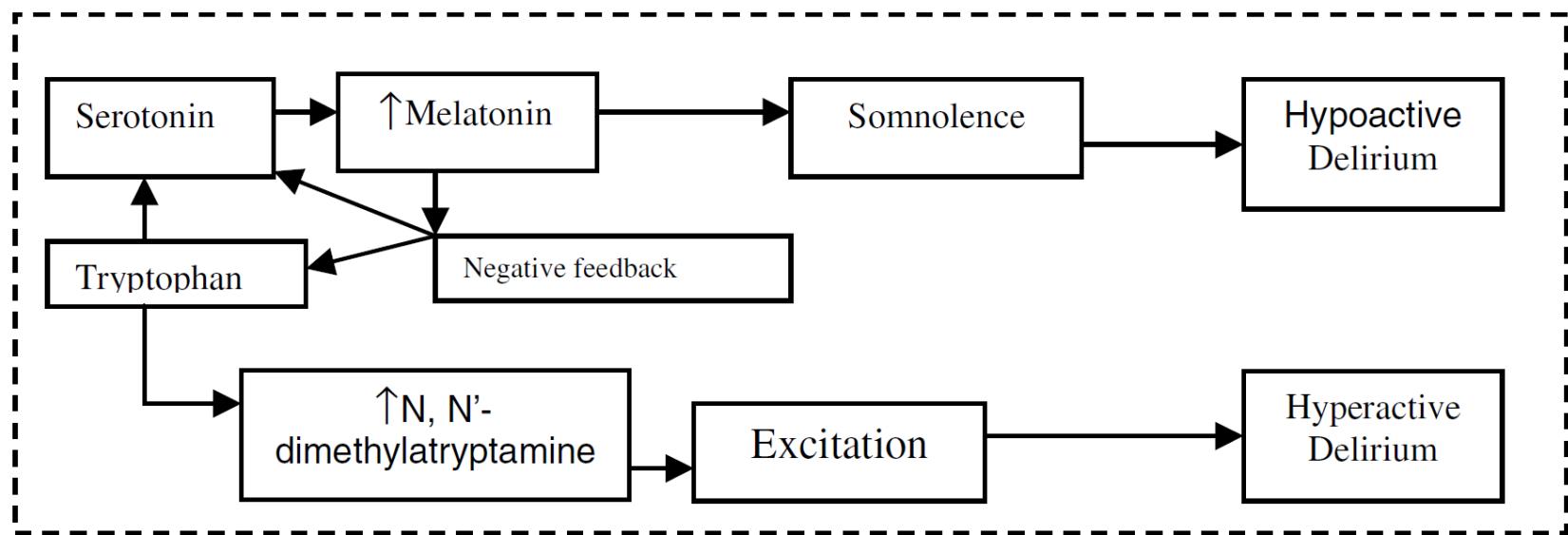
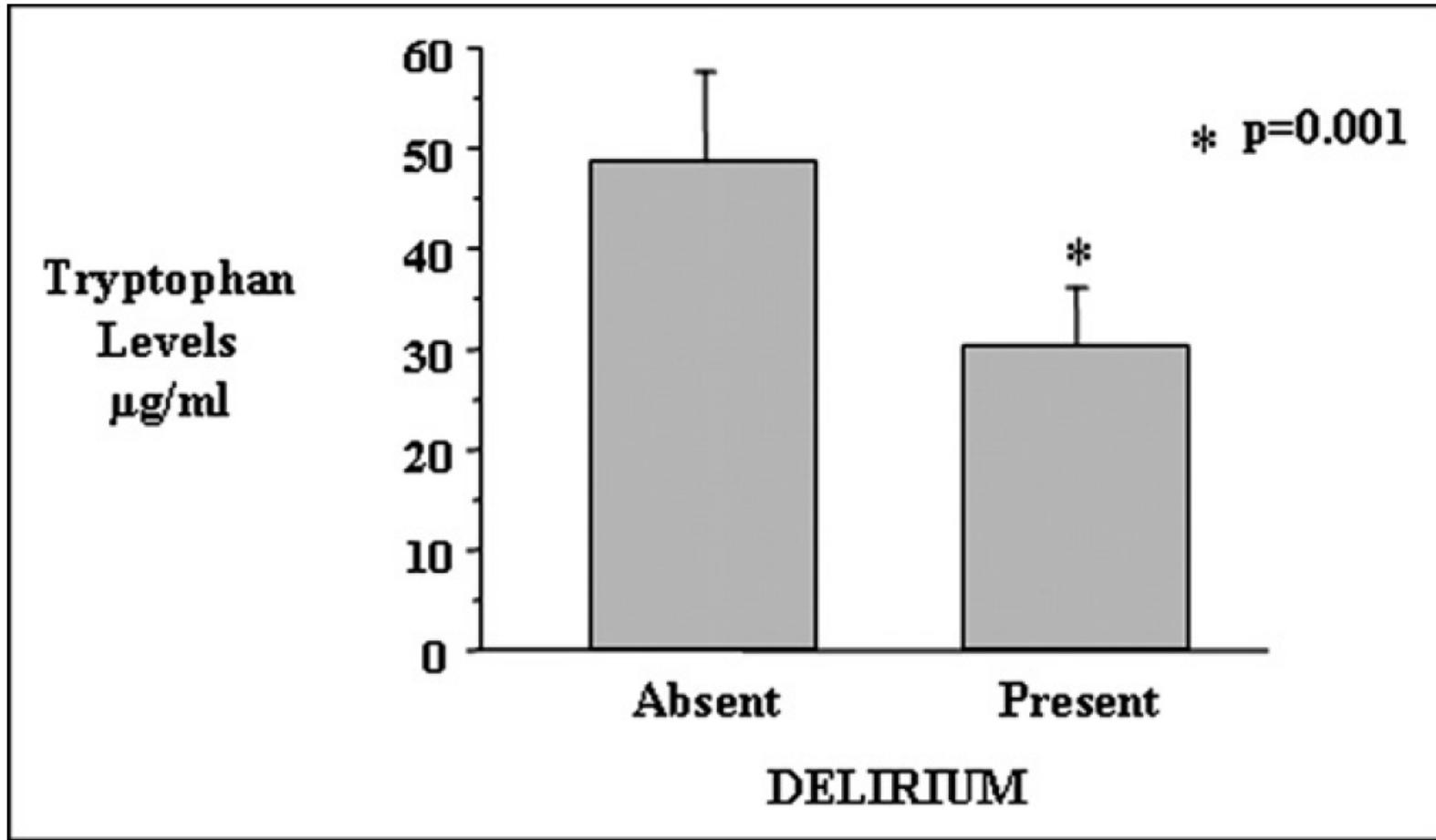
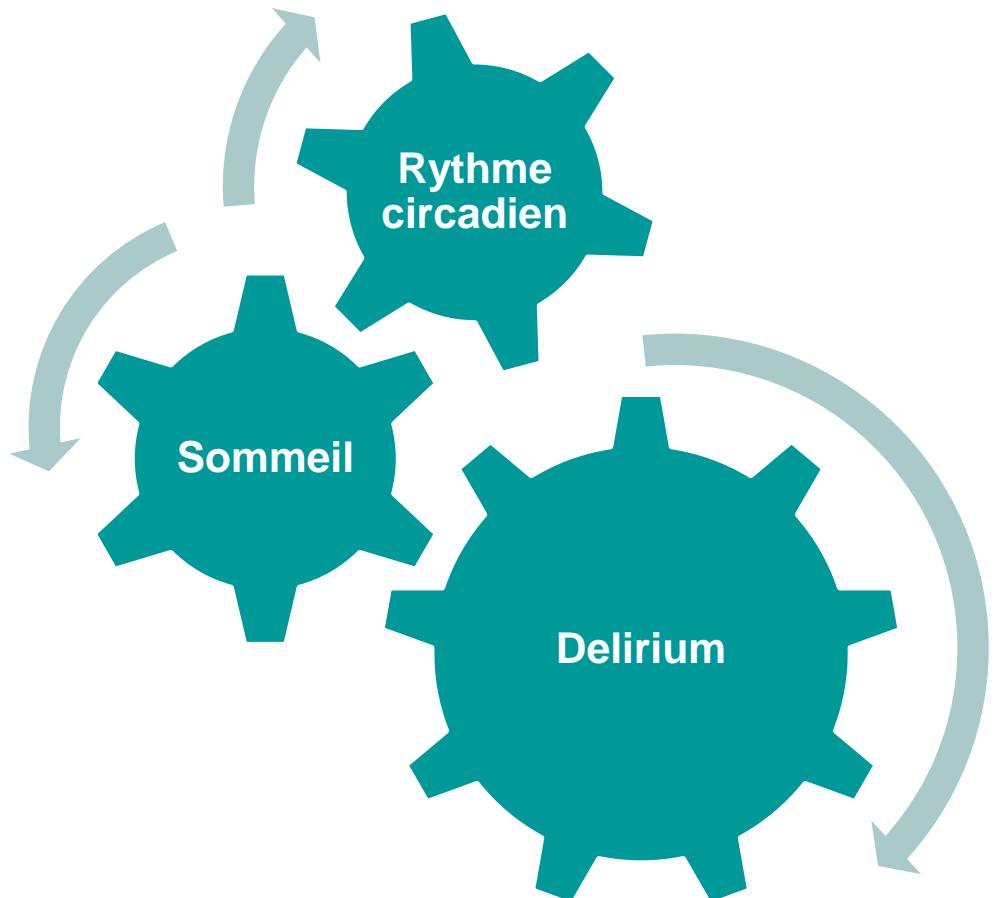


Figure 3 Possible unitary model for the development of delirium

Tryptophane et delirium



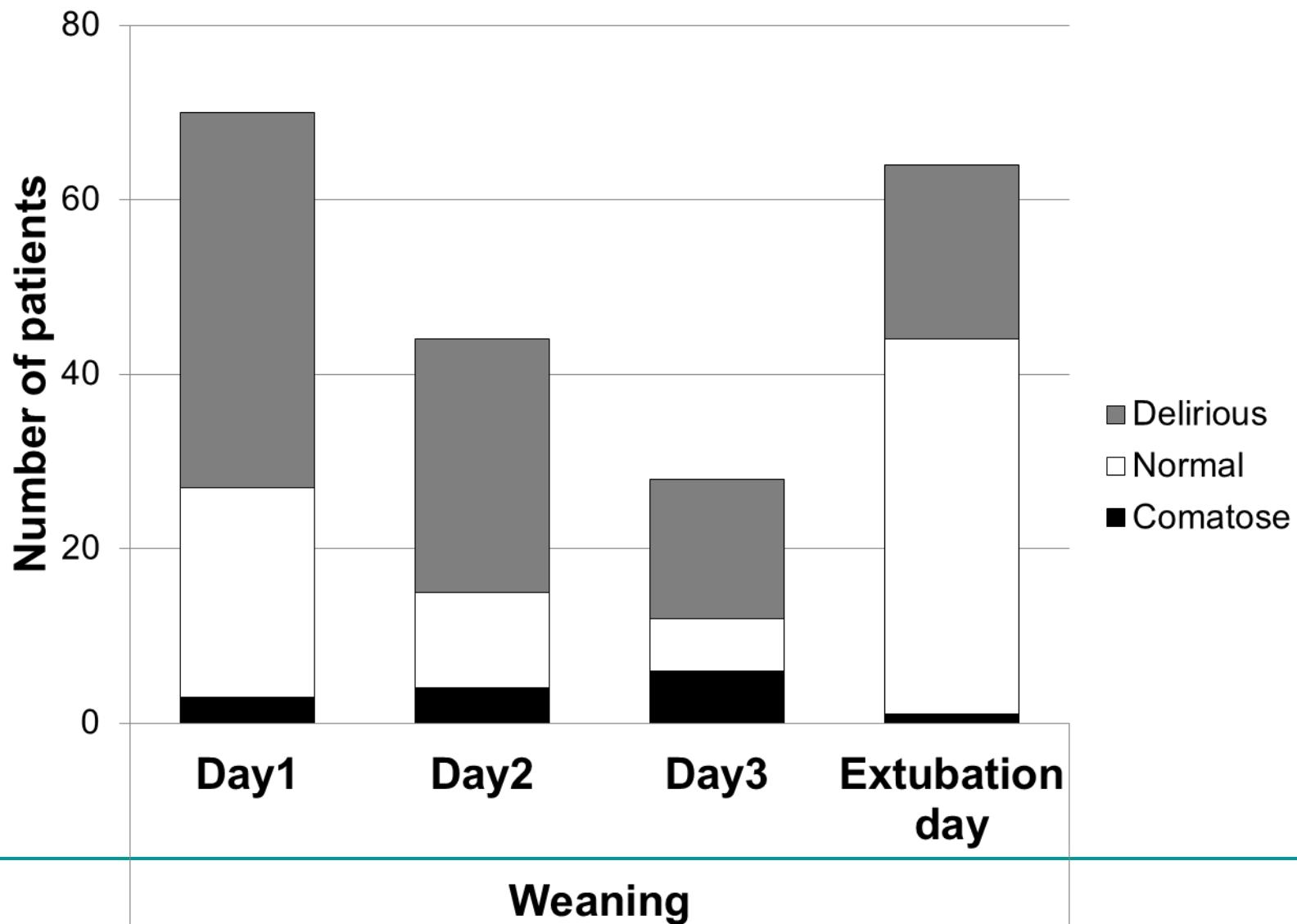


Delirium and Circadian Rhythm of Melatonin During Weaning From Mechanical Ventilation

An Ancillary Study of a Weaning Trial

Armand Mekontso Dessap, MD, PhD; Ferran Roche-Campo, MD; Jean-Marie Launay, PharmD, PhD;
Anais Charles-Nelson, MSc; Sandrine Katsahian, MD, PhD; Christian Brun-Buisson, MD; and Laurent Brochard, MD

Prévalence délirium

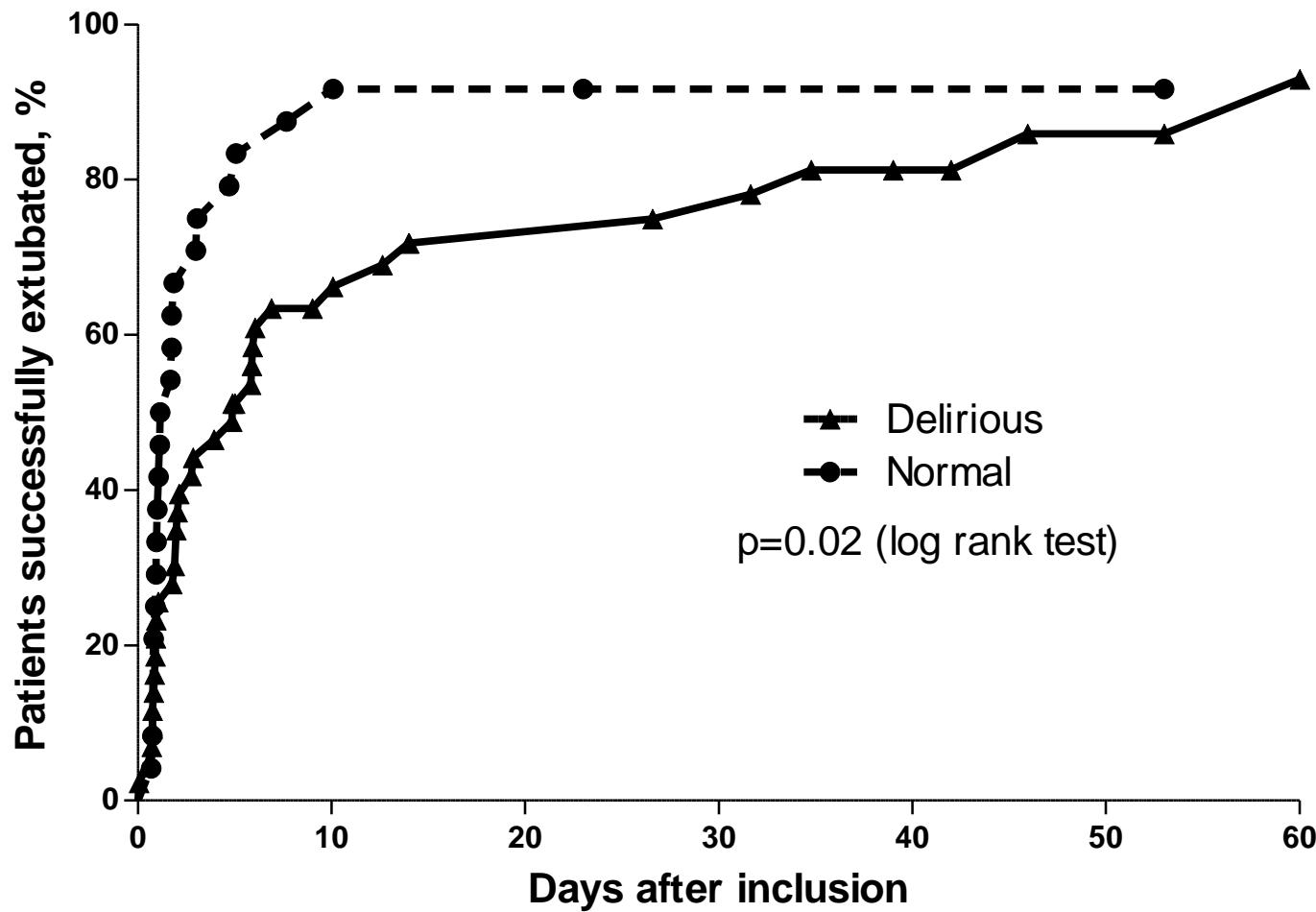


FDR délirium

	Normal (n=24)	Delirious (n=43)	P value
SOFA score at ICU admission	5.5 (4.0-7.8)	8.0 (6.0-11.0)	0.010
Chronic alcohol consumption	1 (4.2%)	11 (25.6%)	0.044
Shock#	13 (54.2%)	36 (83.7%)	0.009
Use of neuromuscular blockers	1 (4.2%)	11 (25.6%)	0.044
Antibiotic treatment	19 (79.2%)	42 (97.7%)	0.011
Total dose of drugs before weaning (mg)			
Midazolam	106 (169)	282 (473)	0.010
Fentanyl	3.3 (6.3)	11.1 (15.1)	0.0001
Propofol	489 (1250)	2765 (6736)	0.043
Number of days with continuous sedation	1.0 (1.0-2.8)	3.0 (2.0-6.3)	0.005

Complications du sevrage

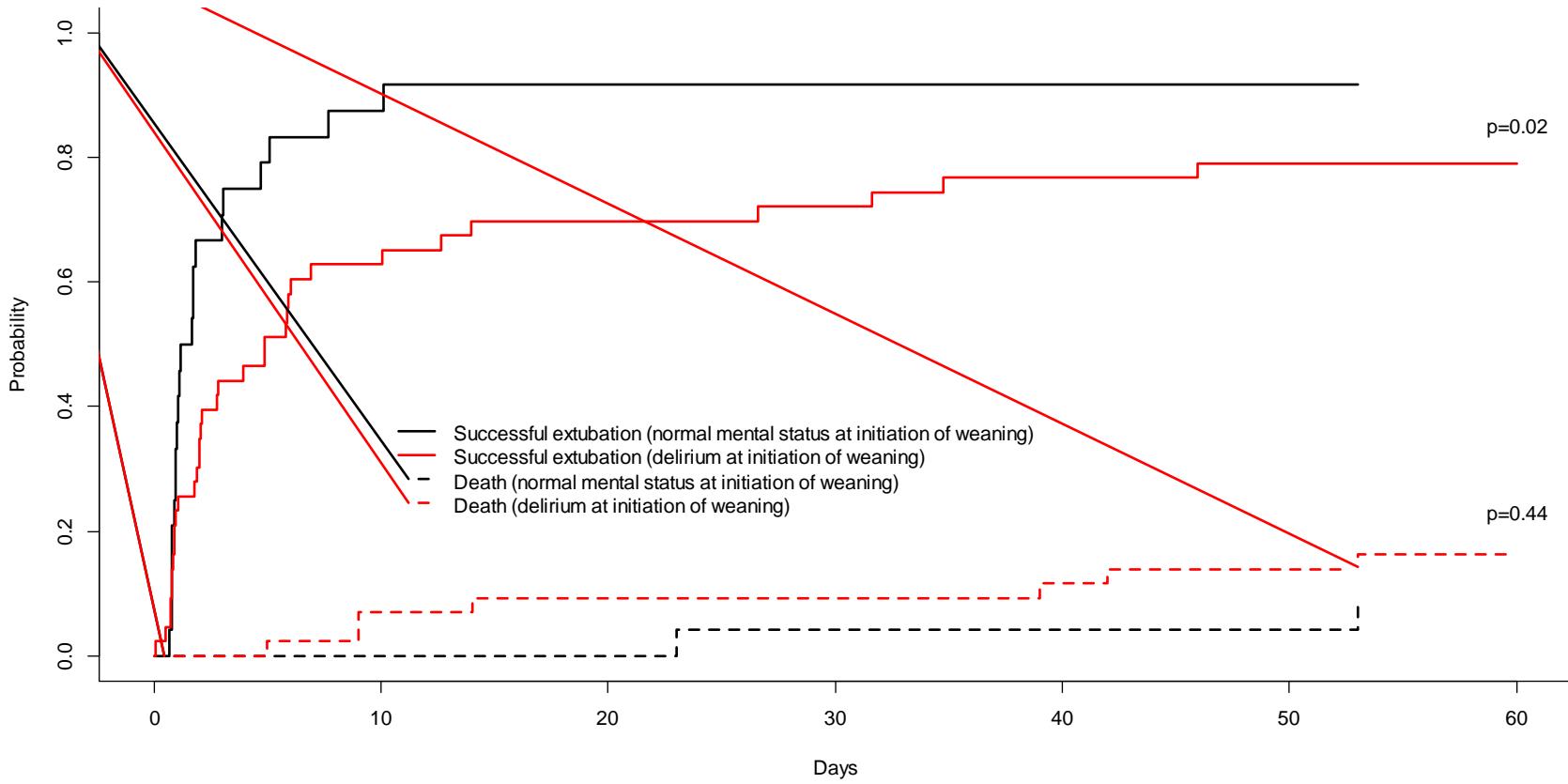
	Normal (n=24)	Delirious (n=43)	P value
Respiratory function			
Respiratory worsening requiring a return to assist-control ventilation	5 (20.8%)	21 (48.8%)	0.024
Ventilator-associated pneumonia	2 (8.3%)	13 (30.2%)	0.039
Ventilator-associated complication	1 (4.2%)	11 (25.6%)	0.044
Need for fluid loading	7 (29.2%)	23 (53.5%)	0.055
Continuous sedation because of clinical worsening	2 (8.3%)	30 (69.8%)	<0.001
Continuous analgesia because of clinical worsening	1 (4.2%)	24 (55.8%)	<0.001
Total dose of CNS drugs during weaning (mg)			
Midazolam	1 (4)	182 (478)	<0.001
Fentanyl	0.0 (0.0-0.0)	6.9 (12.7)	<0.001
Propofol	23 (110)	2655 (6742)	<0.001
Levomepromazin	0 (0)	190 (276)	<0.001



Number at risk*

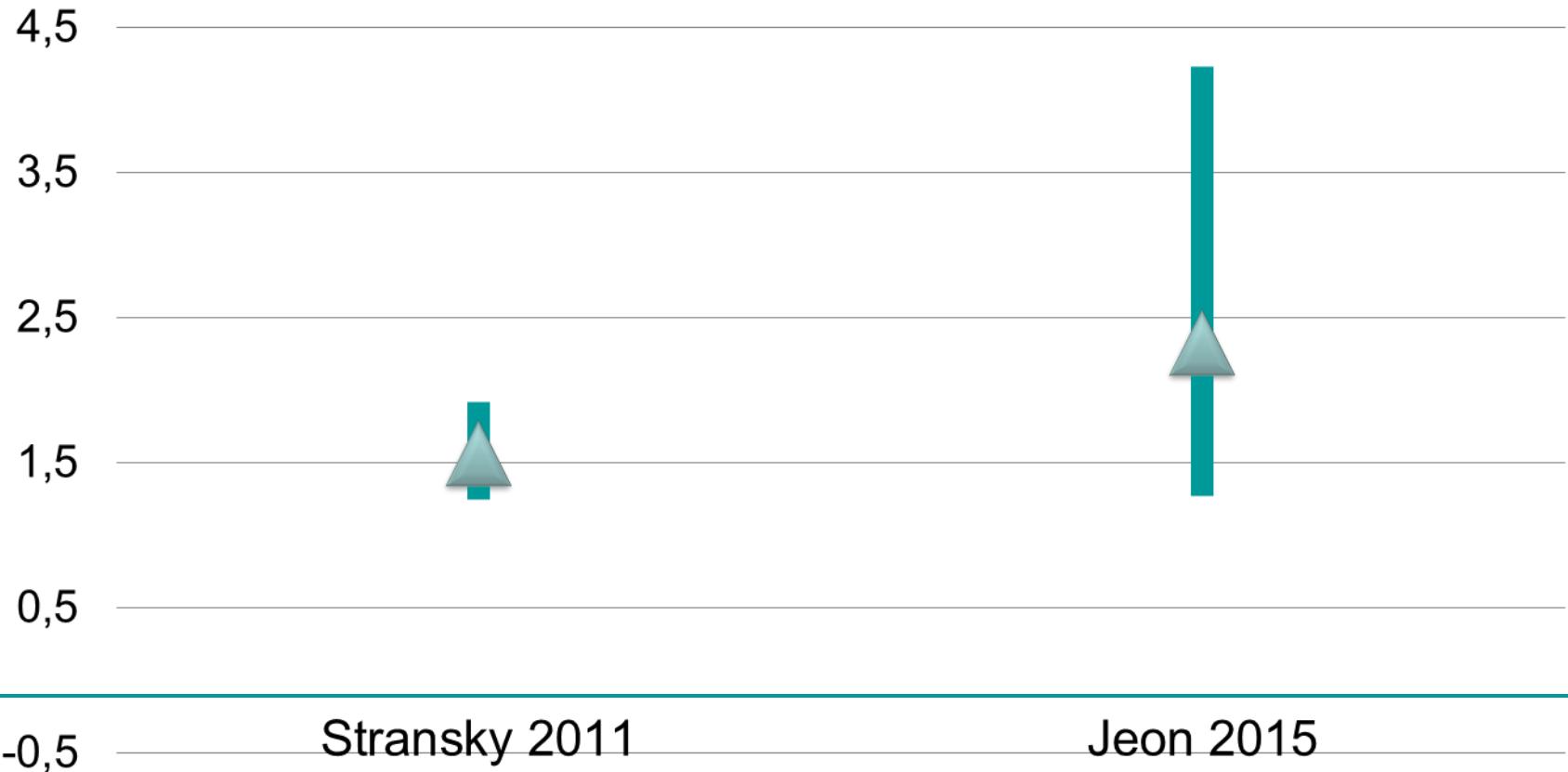
Delirious	43
Normal	24
	13
	9
	8
	5
	3
	1

Analyses multivariées



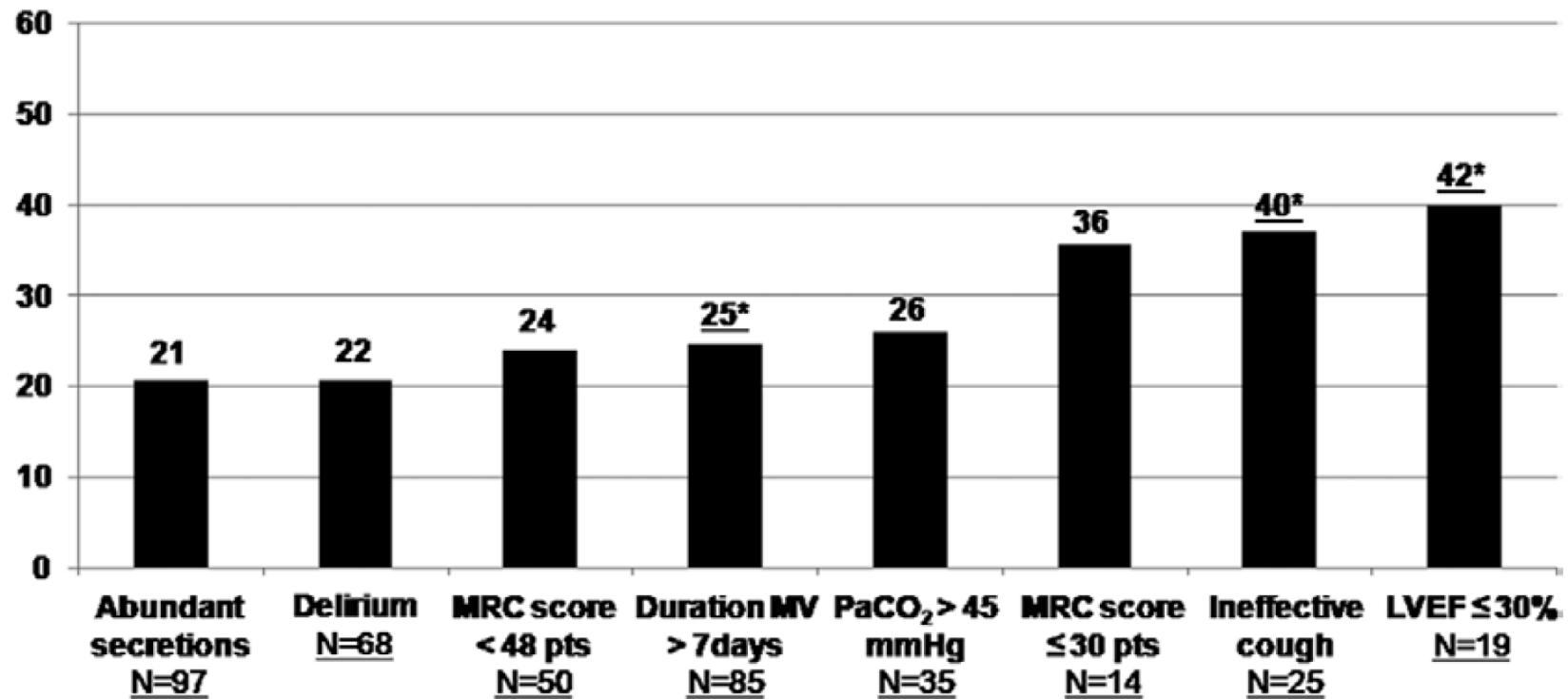
Delirium et sevrage

RR sevrage prolongé

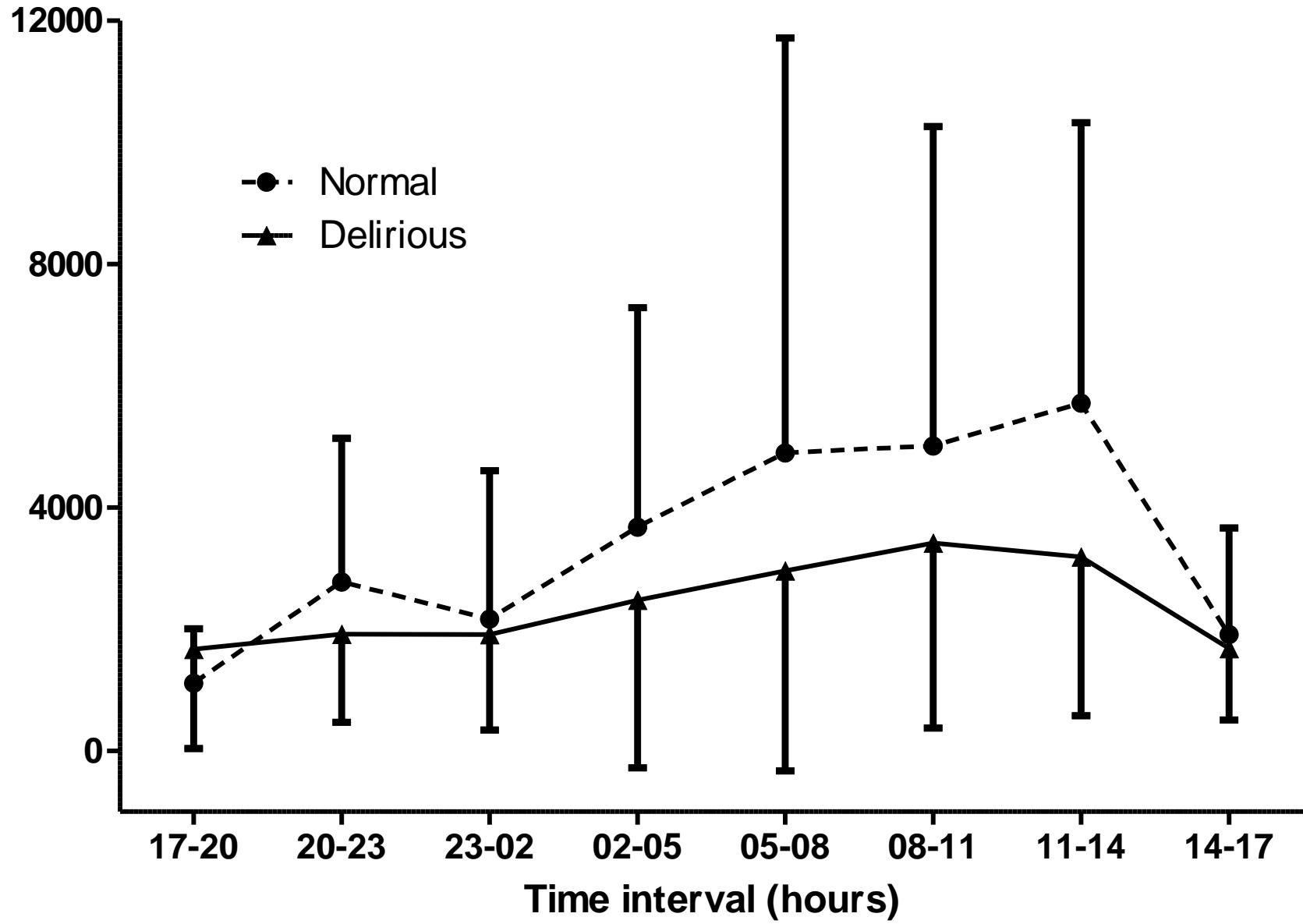


Delirium et extubation

Rate of reintubation for each potential risk factor (in %)



Urinary aMT6s, ng/3hours

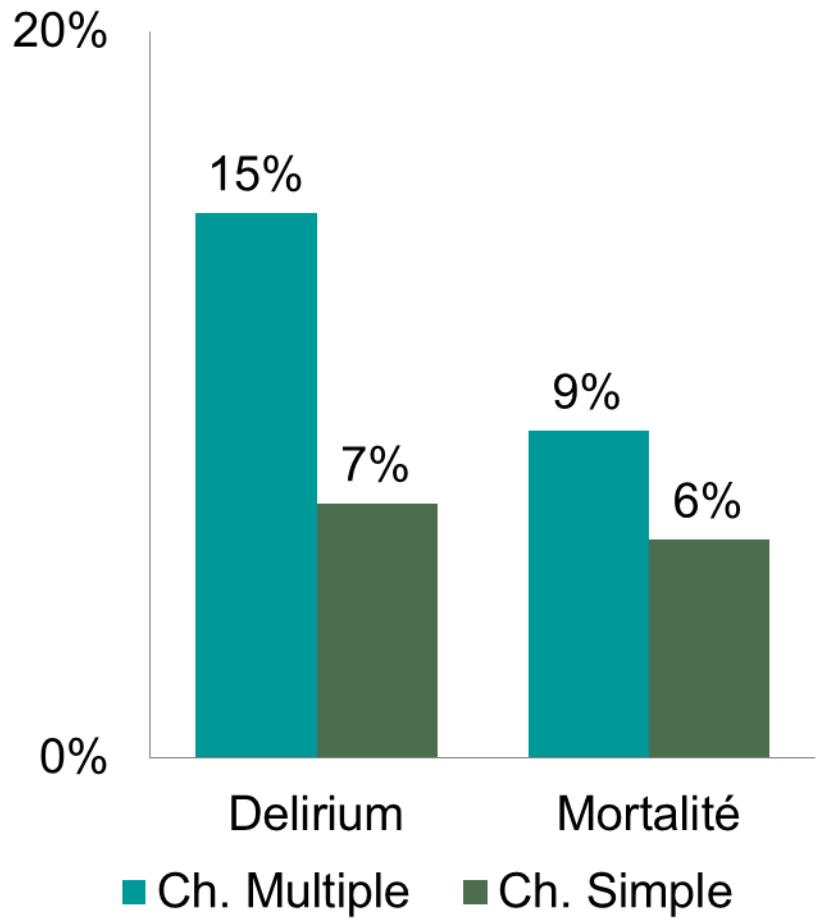
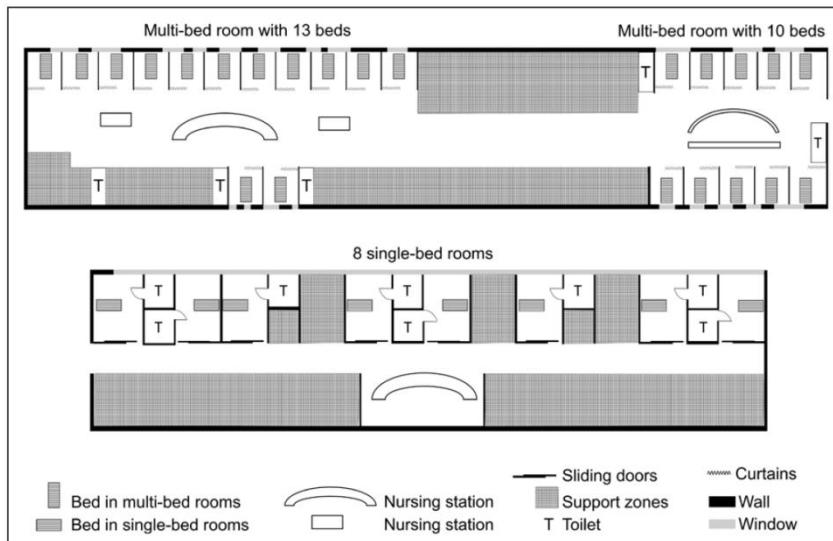


6-SMT urinaire

	Normal (n=24)	Delirious (n=43)	P value
Peak time (h:min)	9:00 (4:49)	8:25 (5:25)	0.663
Peak value (ng/3hours)	9539 (7051)	6020 (3389)	0.007
Amplitude (ng/3hours) #	6152 (5145)	3620 (2305)	0.007
Mean value (ng/3 hours)	3387 (2106)	2400 (1289)	0.020
Total 24-hour excretion (ng)	26941 (16984)	19177 (10337)	0.023

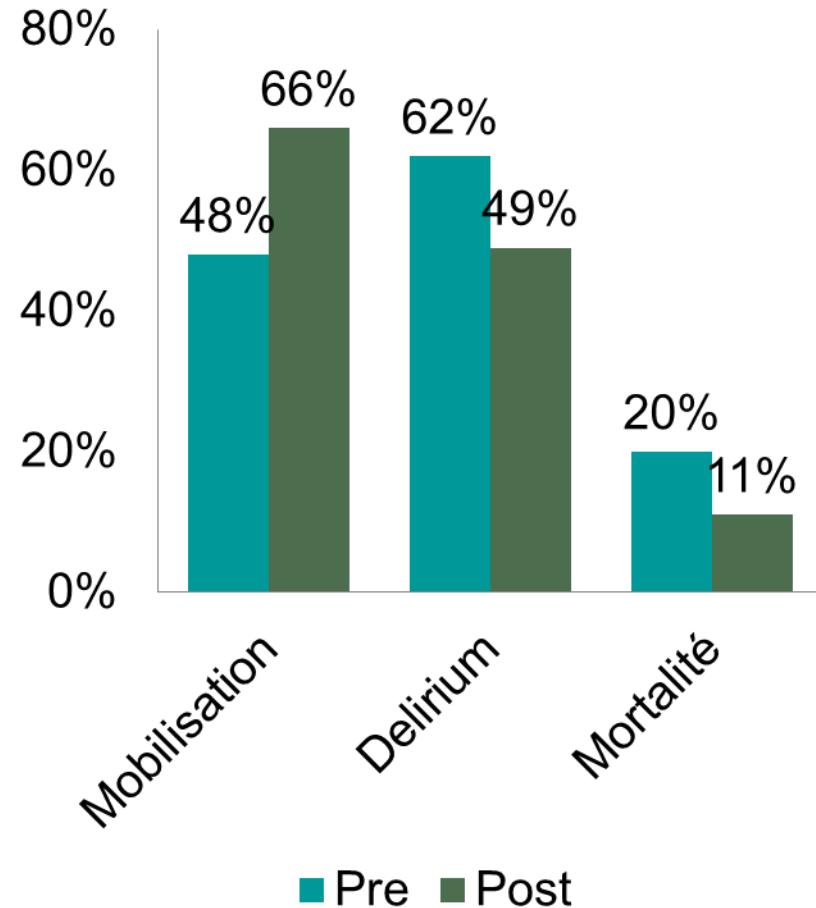
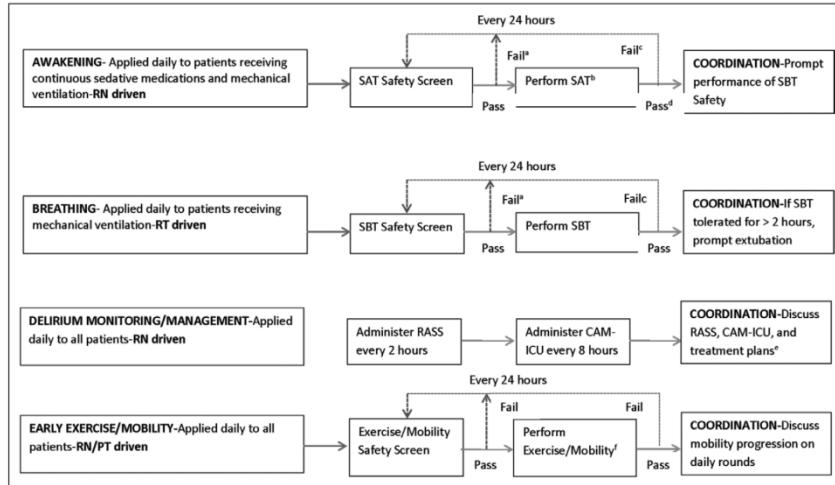
PRÉVENTION DU DELIRIUM

Architecture



Bundle non pharmacologique

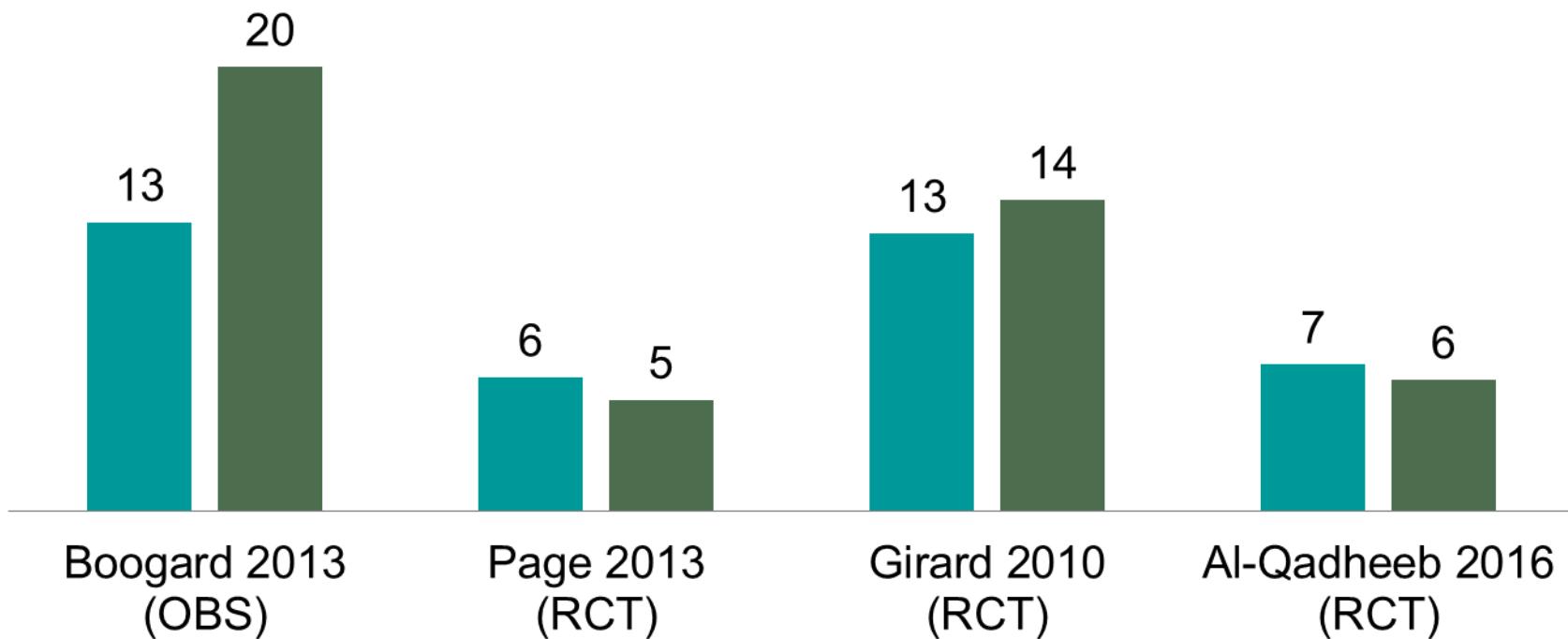
■ ABCDE



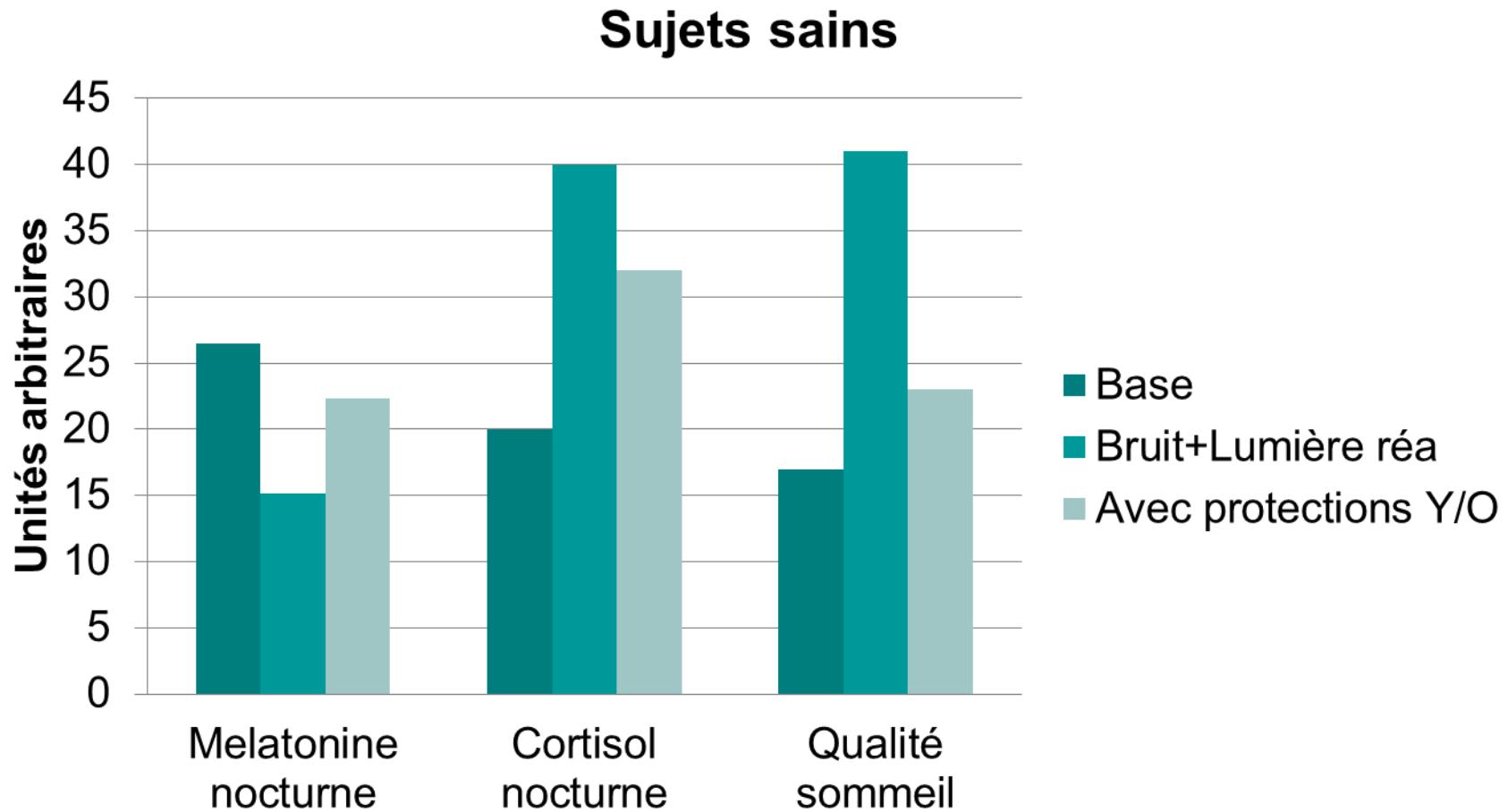
Haloperidol et prévention delirium

Jours vivant sans delirium ni coma

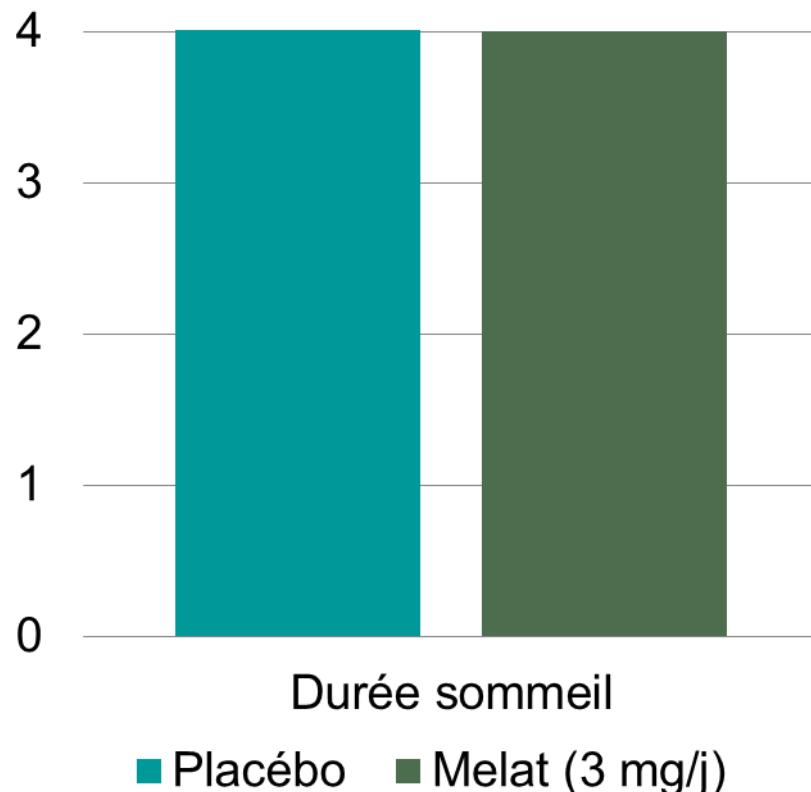
■ Placebo ■ Haloperidol



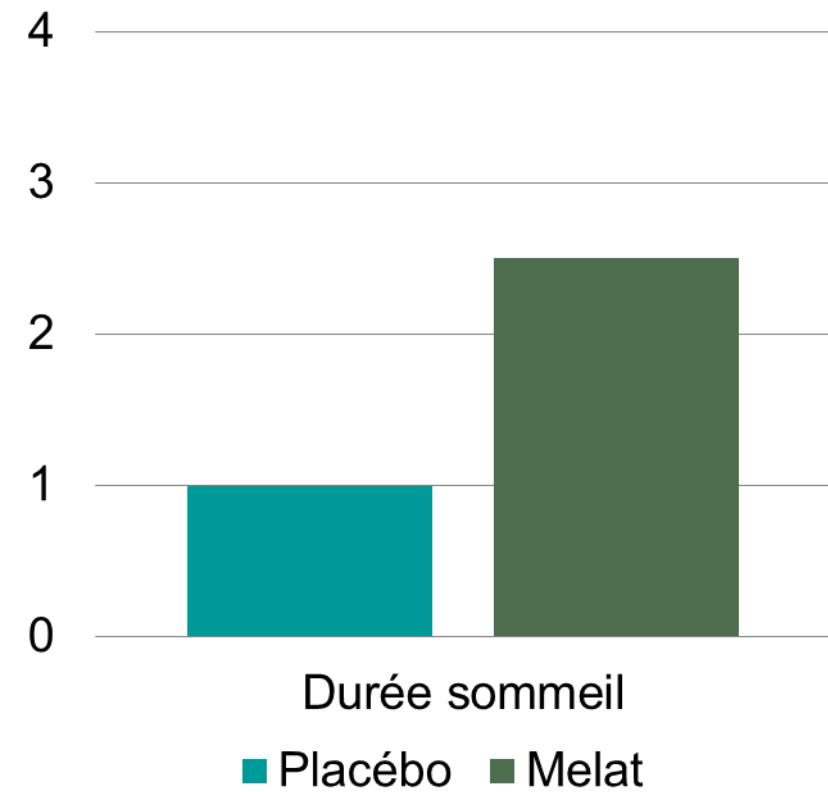
Pollution lumineuse et sonore, mélatonine et sommeil



Mélatonine thérapeutique en réa Trachéotomisés



Bourne, Crit Care 2008

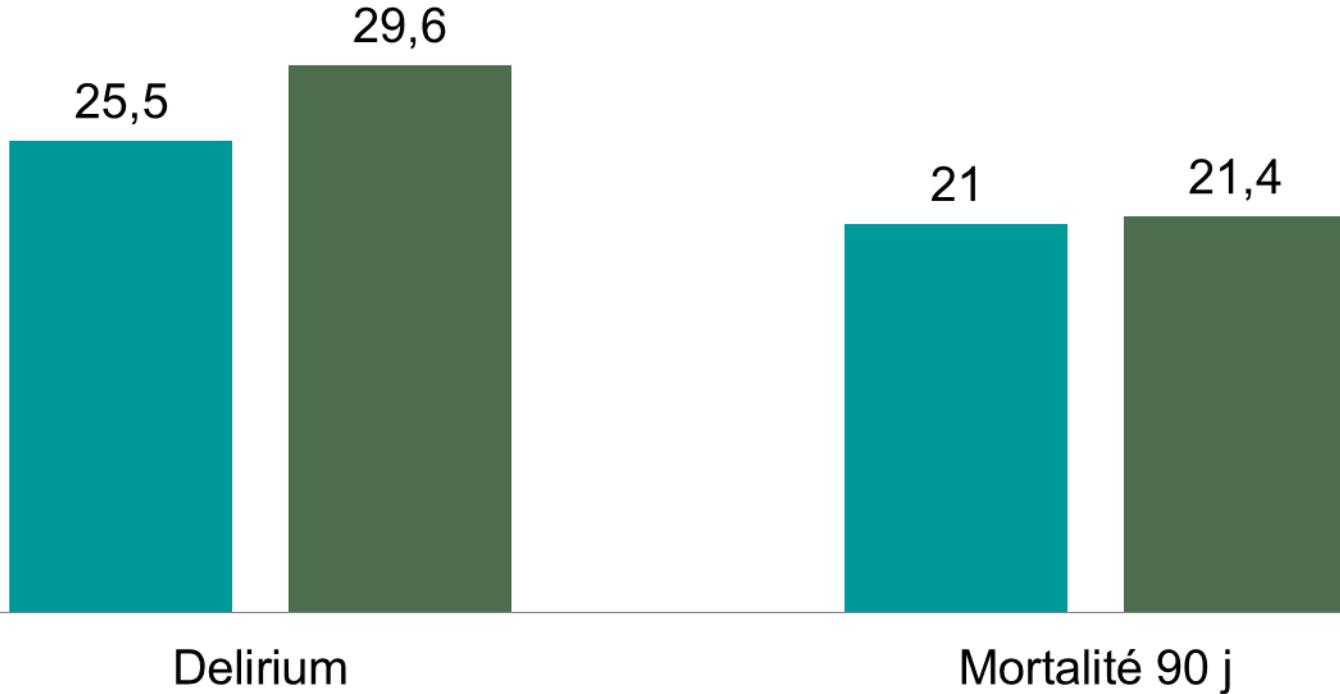


Ibrahim, Crit Care Resusc 2006

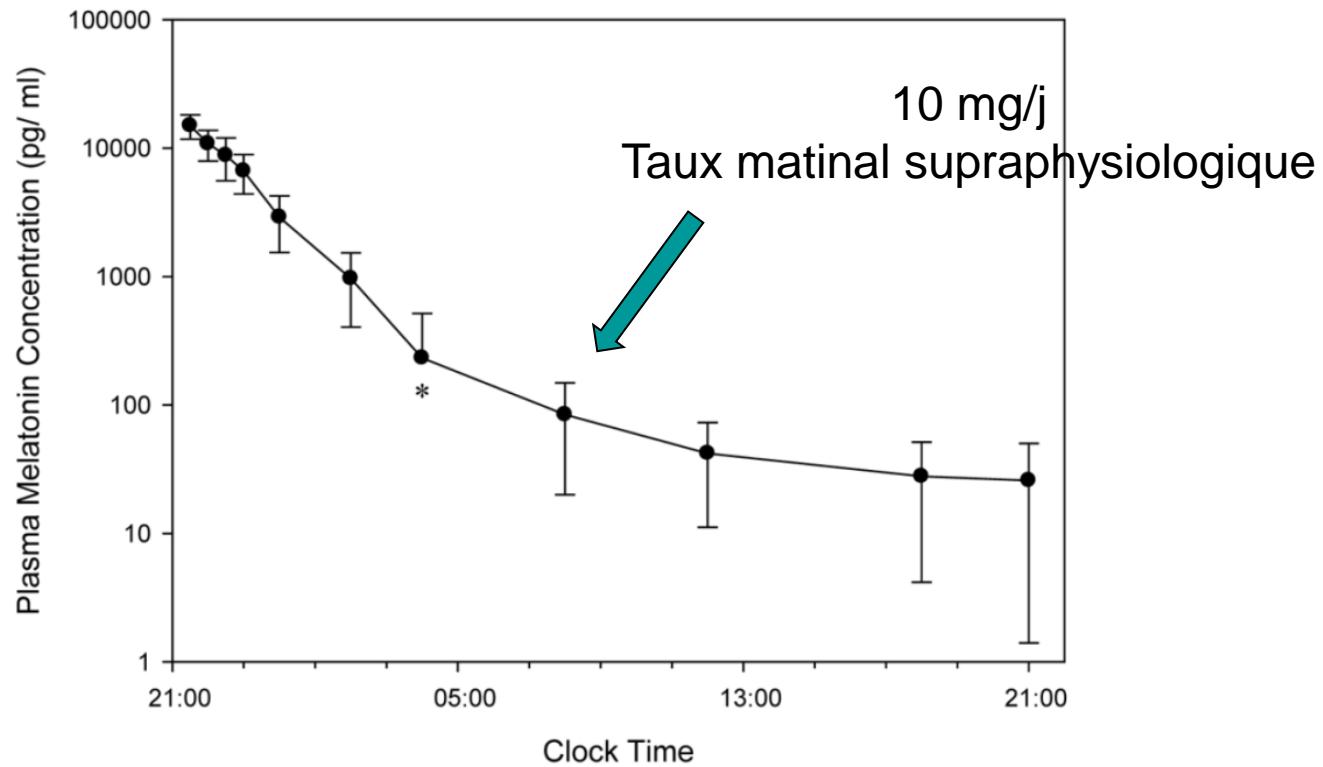
Melatonine thérapeutique

Postop chir hanche

■ Placebo ■ Melat (3 mg/j)

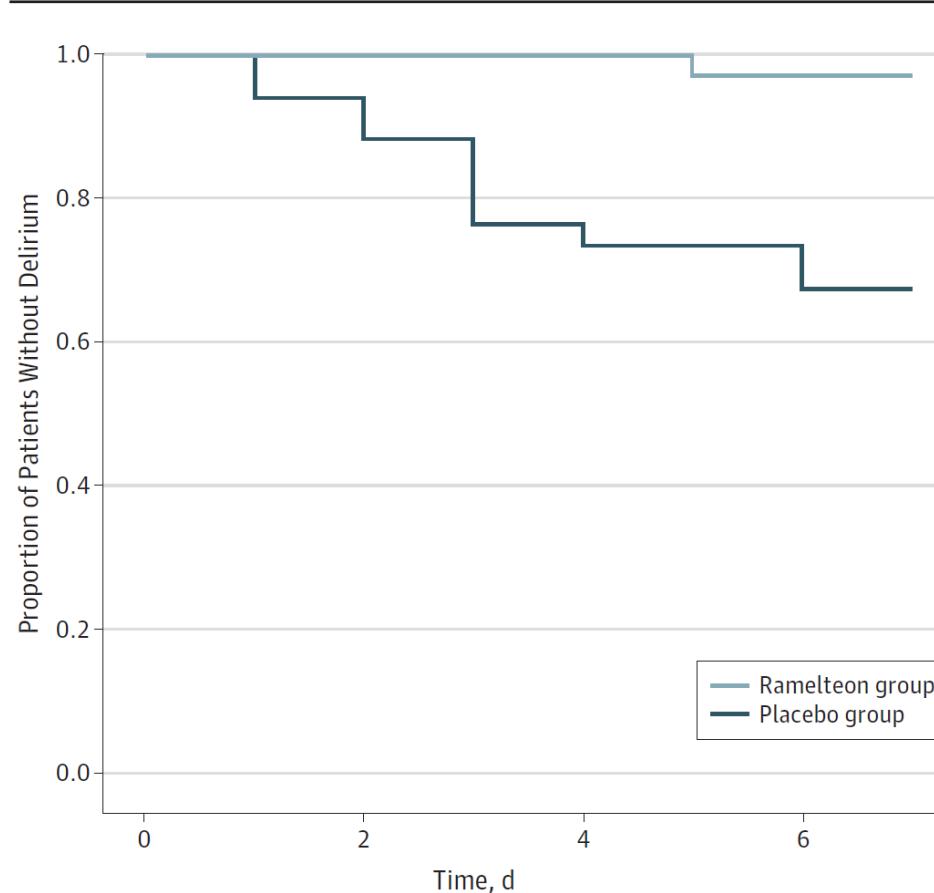


Dose optimale ?



Agoniste de la mélatonine

Figure 3. Time to Development of Delirium



Conclusions

- Le délirium est fréquent durant la phase de sevrage
- Il est associé à une prolongation du sevrage
- Sa physiopathologie pourrait impliquer l'altération
 - du cycle veille-sommeil et
 - du métabolisme de la mélatonine
- La mélatonine pourrait améliorer le cycle nycthéméral, le sommeil et le sevrage chez les patients ventilés