

Prise en charge hémodynamique du choc septique

Djillali Annane, MD, PhD
Médecine Intensive Réanimation, Hôpital Raymond Poincaré,
AP-HP, Université de Versailles SQY – Université Paris Saclay,
Garches, France

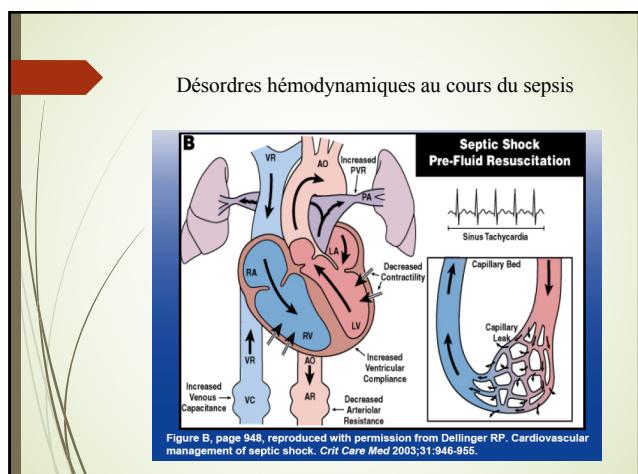
The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3)

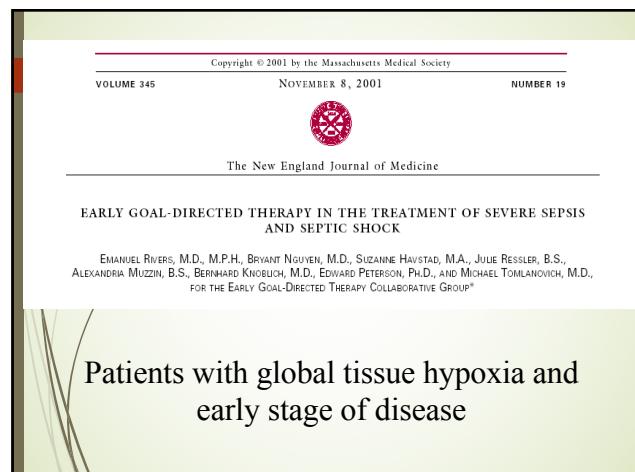
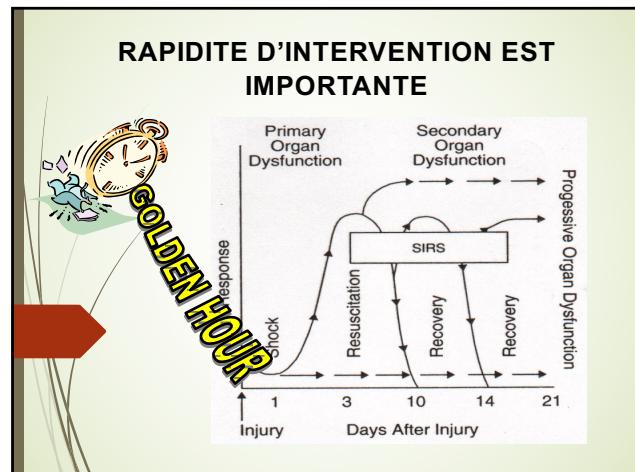
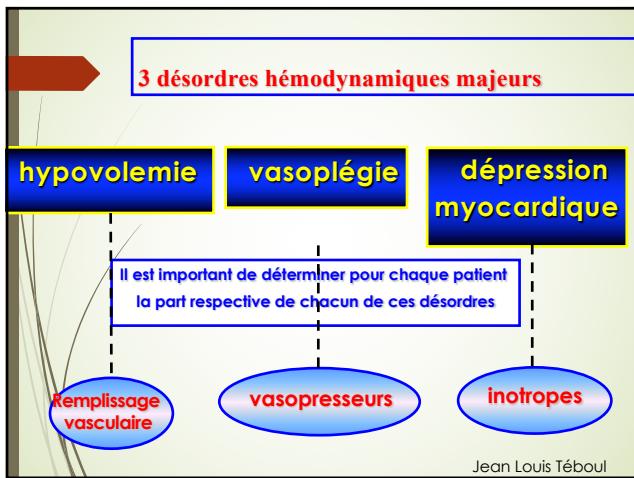
The Sepsis Definitions Task Force

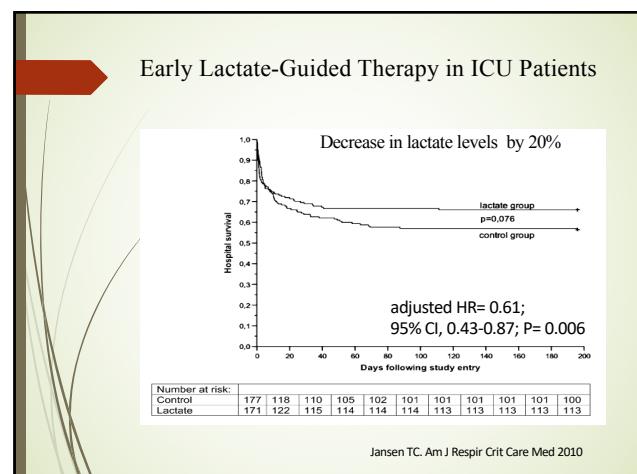
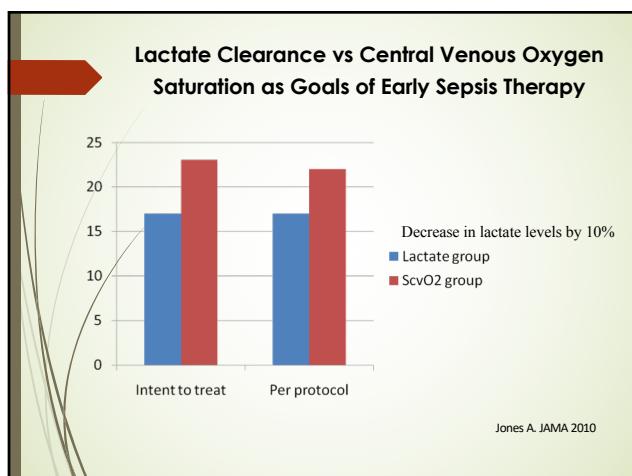
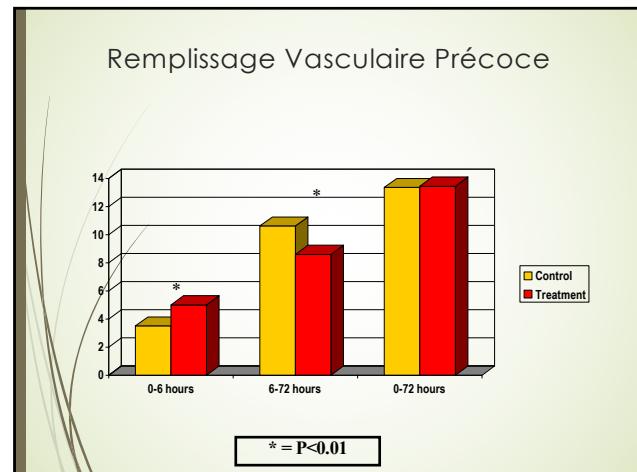
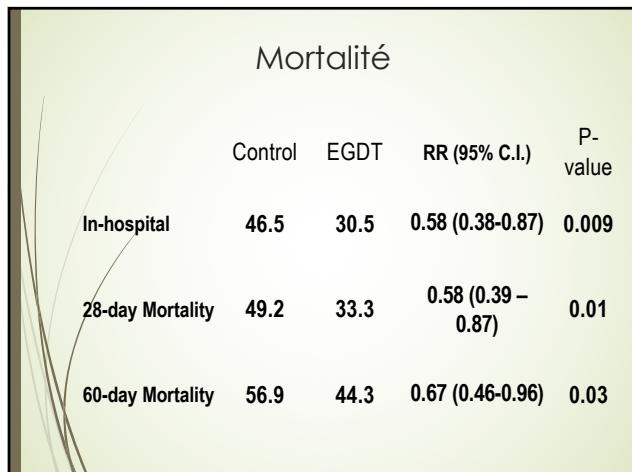
SEPTIC SHOCK

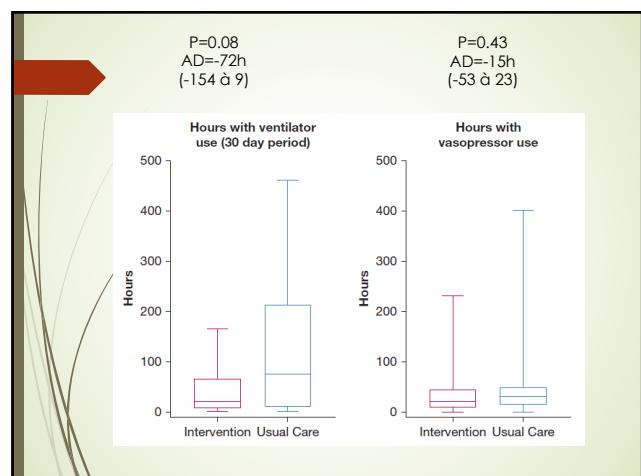
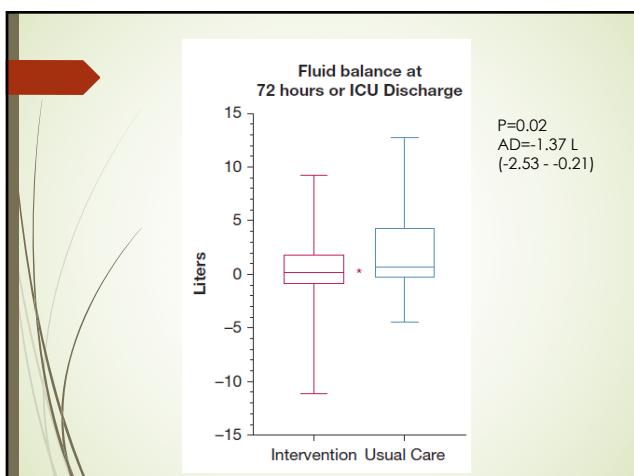
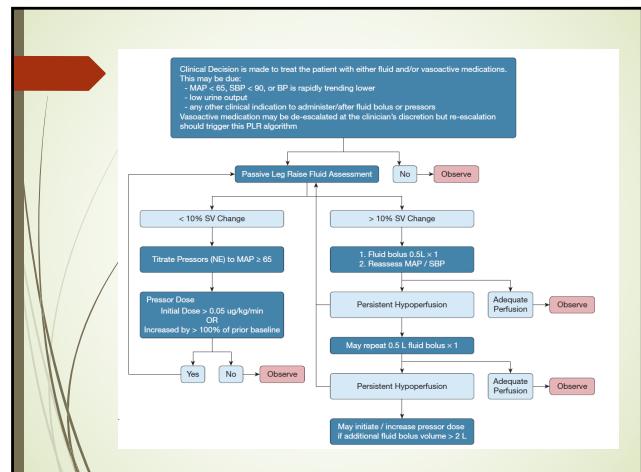
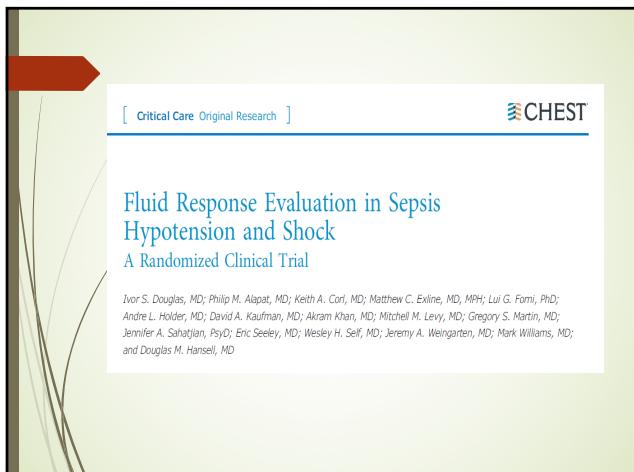
- Definition
Septic shock is defined as a subset of sepsis where underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality
- Clinical criteria
Despite adequate fluid resuscitation, lactate >2 mmol/l and vasopressors needed to elevate MAP \geq 65 mmHg

n.b. if can't measure lactate use marker of poor perfusion, e.g. capillary refill









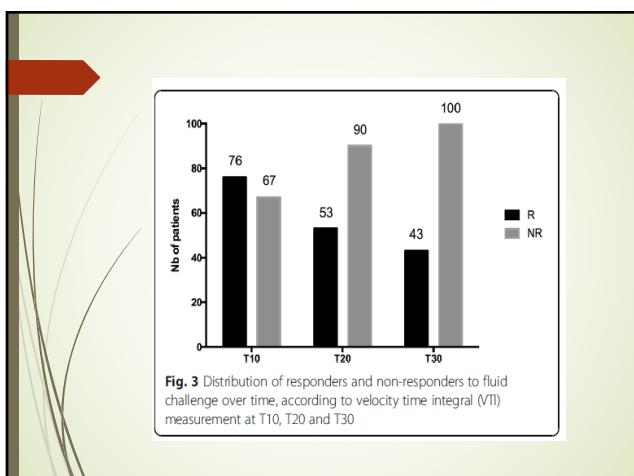
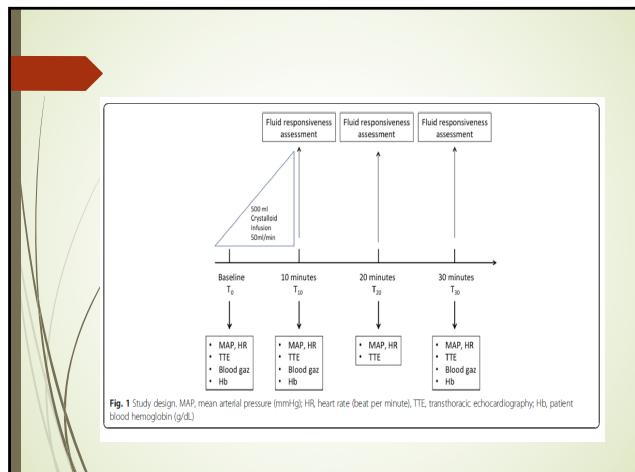
Roger et al. *Critical Care* (2019) 23:179
<https://doi.org/10.1186/s13054-019-2448-z>

RESEARCH Open Access

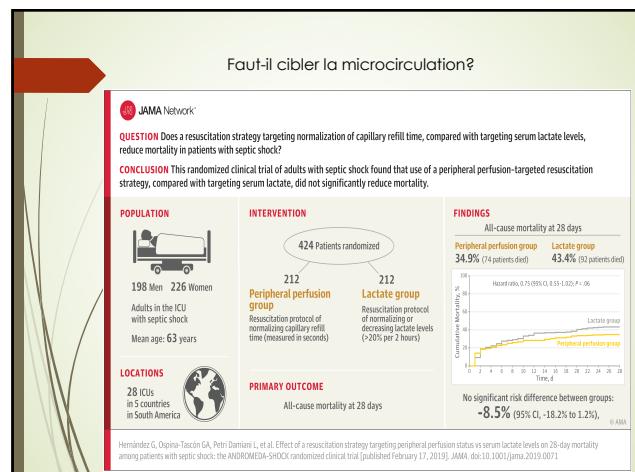
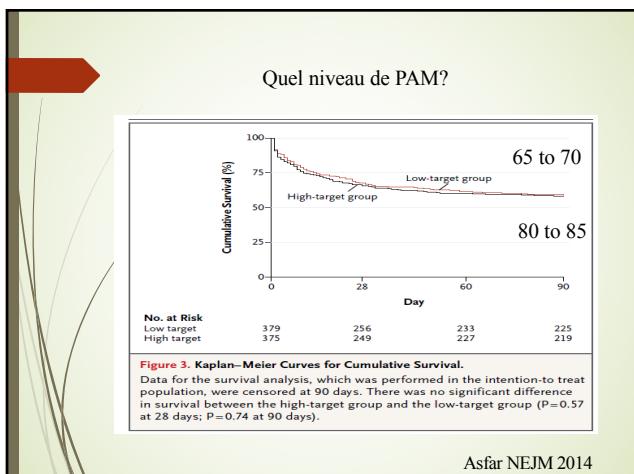
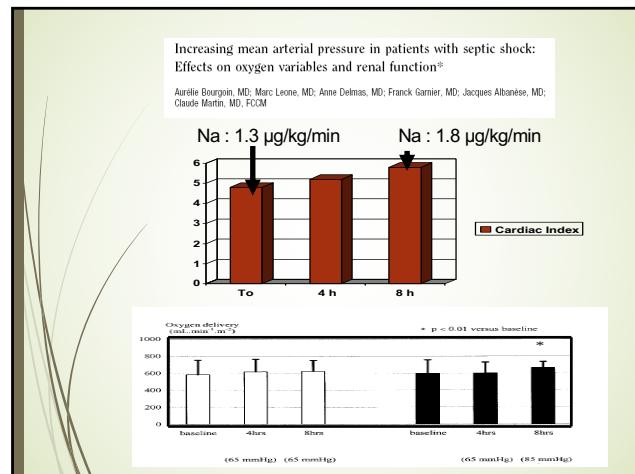
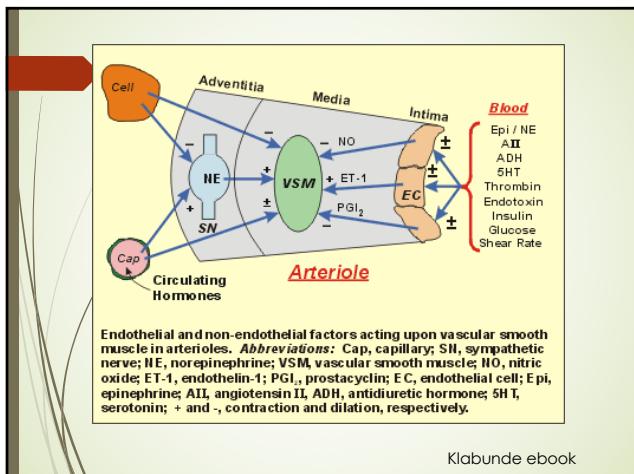
Time course of fluid responsiveness in sepsis: the fluid challenge revisiting (FCREV) study

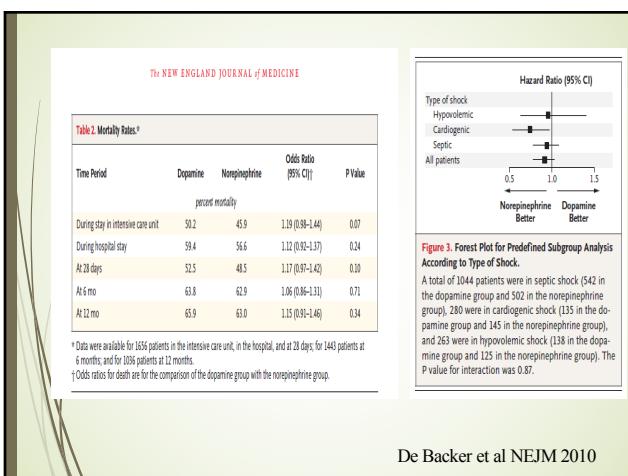
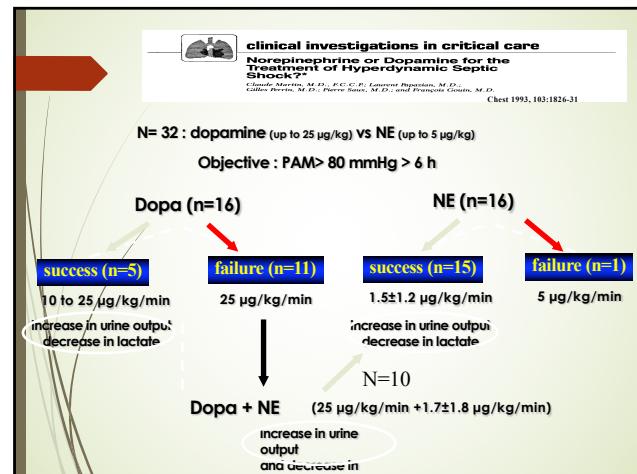
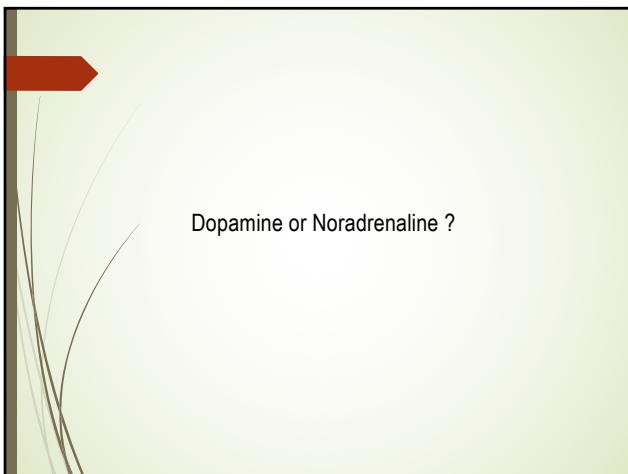
Time Point	R (Black Bar)	NR (Grey Bar)
T ₁₀	76	67
T ₂₀	53	90
T ₃₀	43	100

Fig. 3 Distribution of responders and non-responders to fluid challenge over time, according to velocity time integral (VTI) measurement at T10, T20 and T30

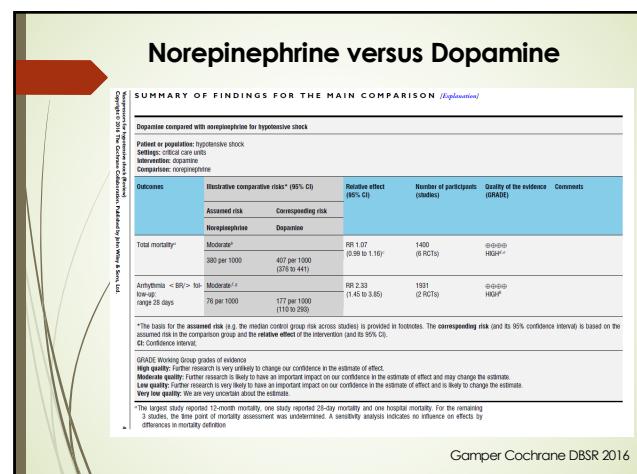


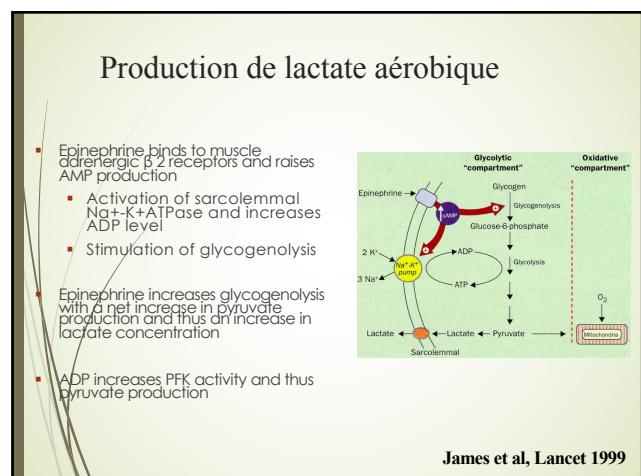
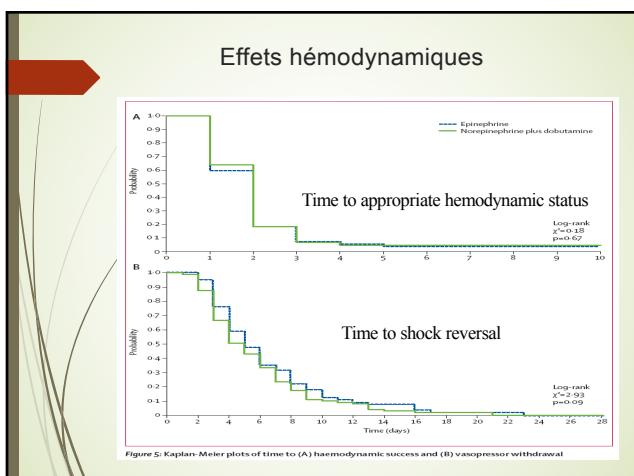
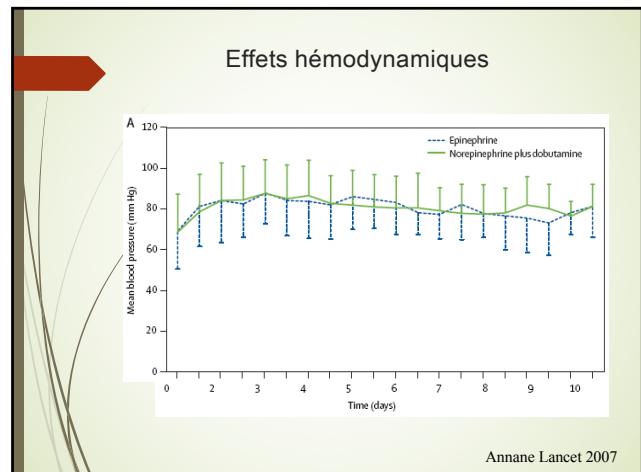
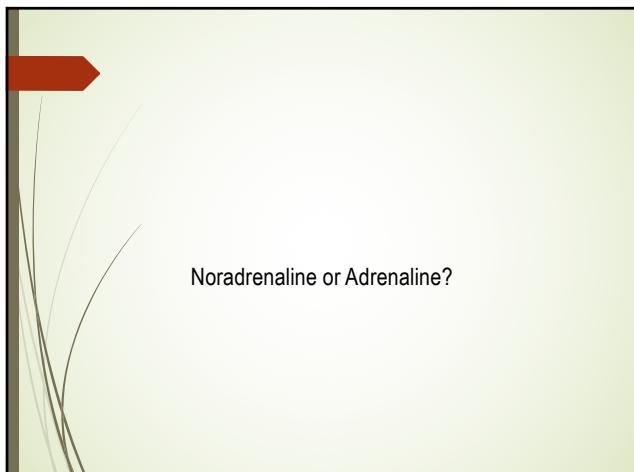
Vasopresseurs

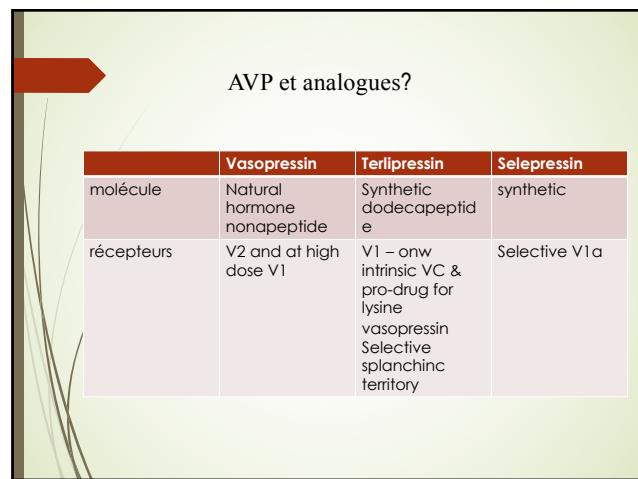
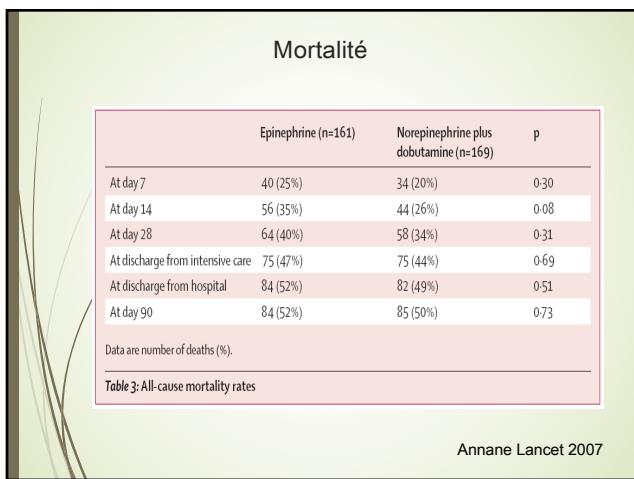
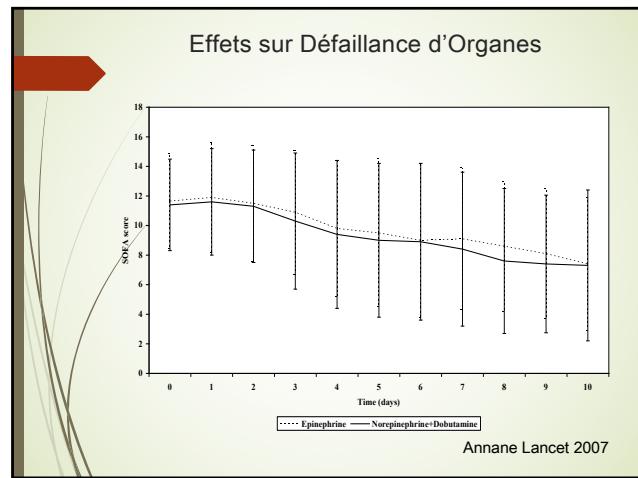
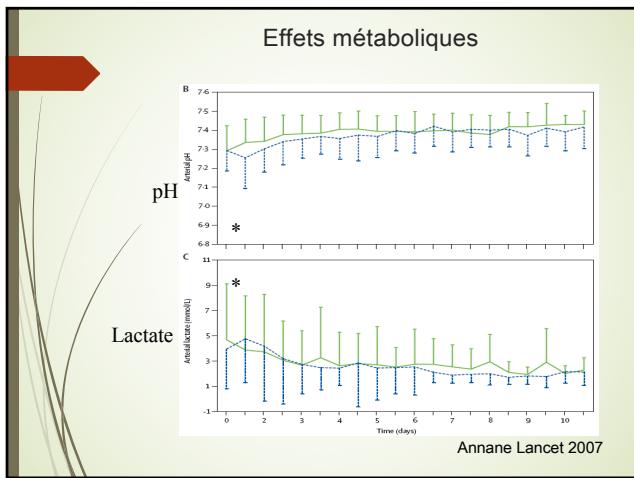


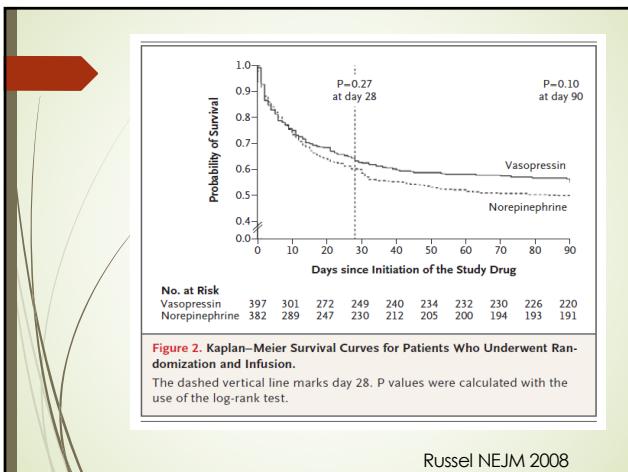


De Backer et al NEJM 2010

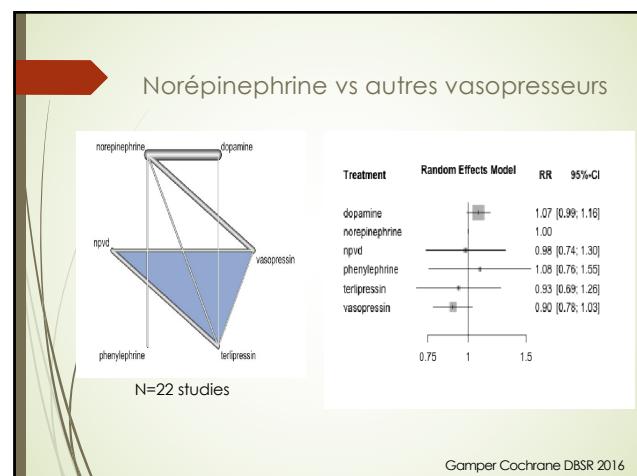
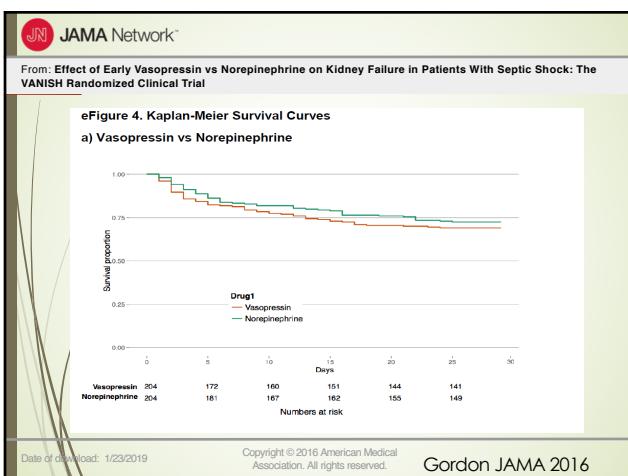
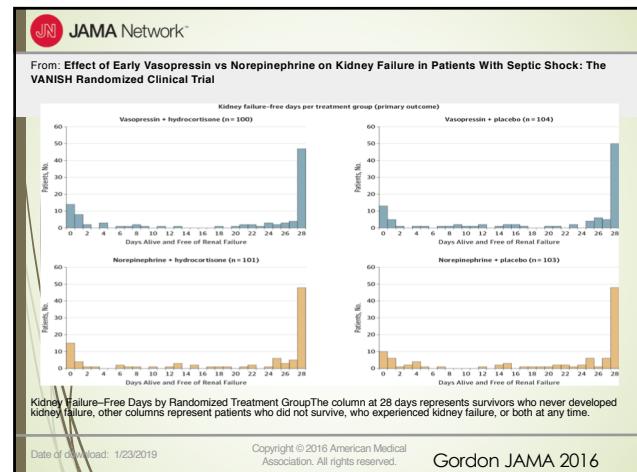


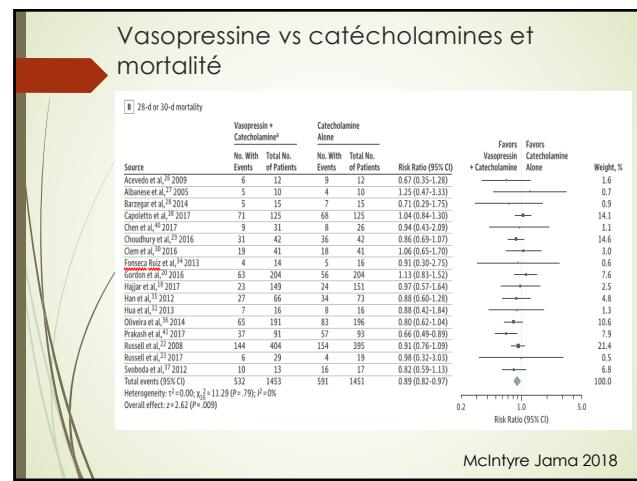
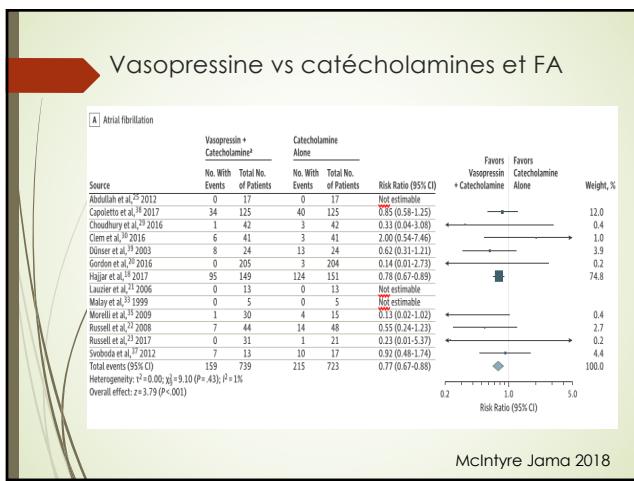
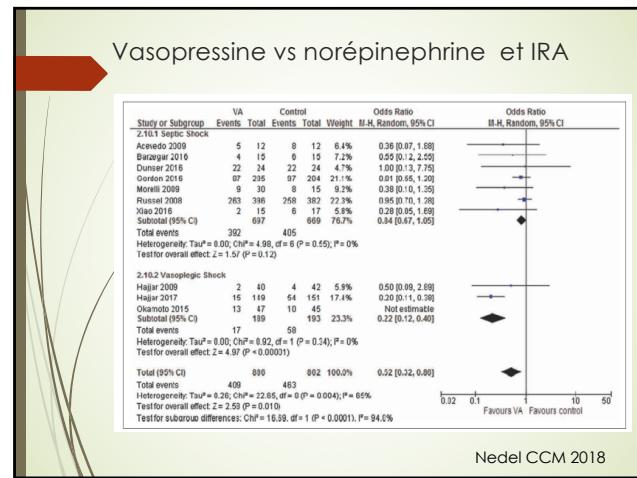
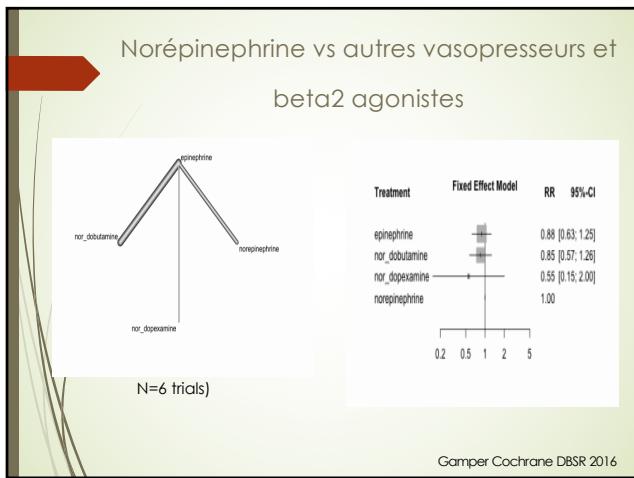


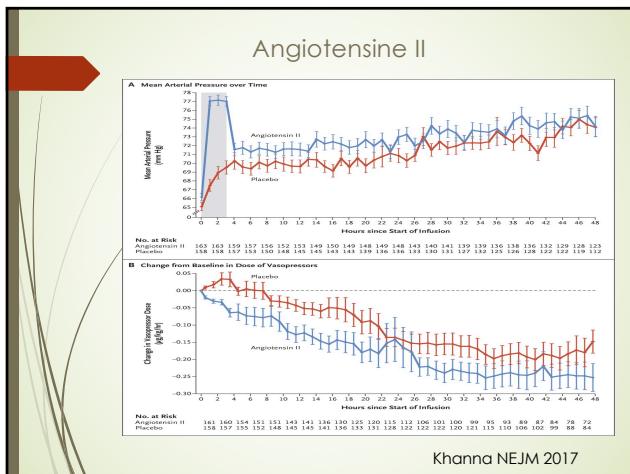




Russel NEJM 2008







Molecules	Arrhythmias		Vascular			Other tissues/ organs		Metabolic
	Supra-ventricular	Ventricular	Myocardial ischemia	Stroke	Limbs	Other tissues/ organs		
Dopamine	Atrial fibrillation; multifocal atrial tachycardia; cardiac conduction delay	Ventricular tachycardia/fibrillation	+	+	+	+		Not described
Dobutamine	Atrial fibrillation; multifocal atrial tachycardia	Ventricular tachycardia/fibrillation	+	Not described	Not described	Not described		Hypokalemia
Epinephrine*	Atrial fibrillation; multifocal atrial tachycardia	Ventricular tachycardia/fibrillation	+++	+	+	+		Lactic acidosis; hyperglycaemia; hypoglycaemia; insulin resistance; hypokalaemia
Norepinephrine	Atrial fibrillation; multifocal atrial tachycardia	Ventricular tachycardia/fibrillation	++	+	+	+		Not described
Vasopressin	Atrial fibrillation; bradycardia	Ventricular tachycardia/fibrillation	++	+	+	+		hyponatraemia
Angiotensin II ^a	±	Ventricular tachycardia	Not described	Not described	+	Not described		Not described
Levosimendan	Atrial fibrillation; multifocal atrial tachycardia; junctional tachycardia	Ventricular tachycardia/fibrillation	Not described	Not described	Not described	Not described		Metabolic alkalosis; hypokalemia
Epinephrine/Landiolol	Bradycardia; conduction abnormalities; sinus arrest; asystole		+	Not described	+	Not described		Hyperkalemia; metabolic acidosis

* Epinephrine may also be associated with brain haemorrhage
Synthetic human angiotensin II

Annane ICM 2018

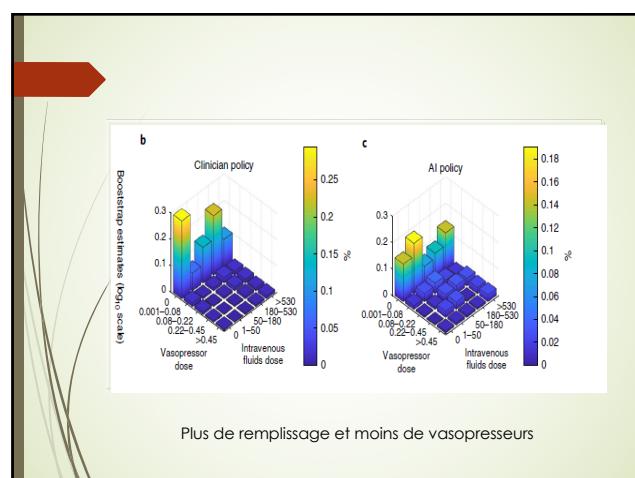
nature medicine

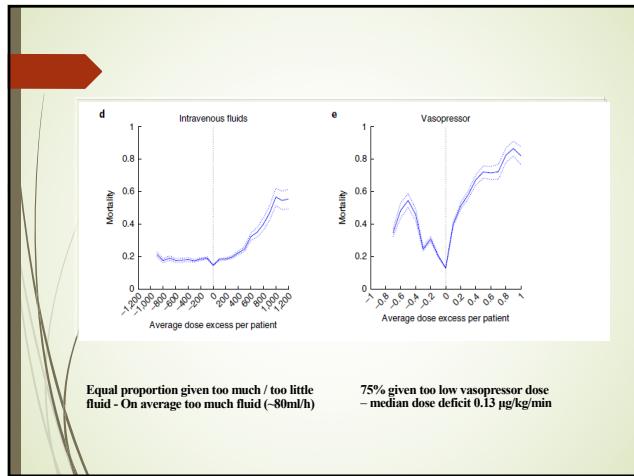
ARTICLES

<https://doi.org/10.1038/s41591-018-0213-5>

The Artificial Intelligence Clinician learns optimal treatment strategies for sepsis in intensive care

Matthieu Komorowski^{1,2,3}, Leo A. Celis^{3,4}, Omar Badawi^{1,5,6}, Anthony C. Gordon^{1*} and A. Aldo Faisal^{2,7,8,9*}





Conclusions

- Triade: hypovolémie + vasoplégie + myocardiodépression
- Evaluer de façon dynamique la sensibilité au remplissage vasculaire
- Sélectionner un vasopresseur: NE en 1ère intention
- AVP ouadrénaline en 2de intention
- Monitorage
 - ▶ PAM ($>65\text{mmHg}$)
 - ▶ Lactate (clearance $<10\%$)
 - ▶ Microcirculation (TRC $<3\text{sec}$)