Apport de la PVC dans l’évaluation hémodynamique des patients en états de choc ?

Dr Ghanem Lakhal lamine

Service de UMC

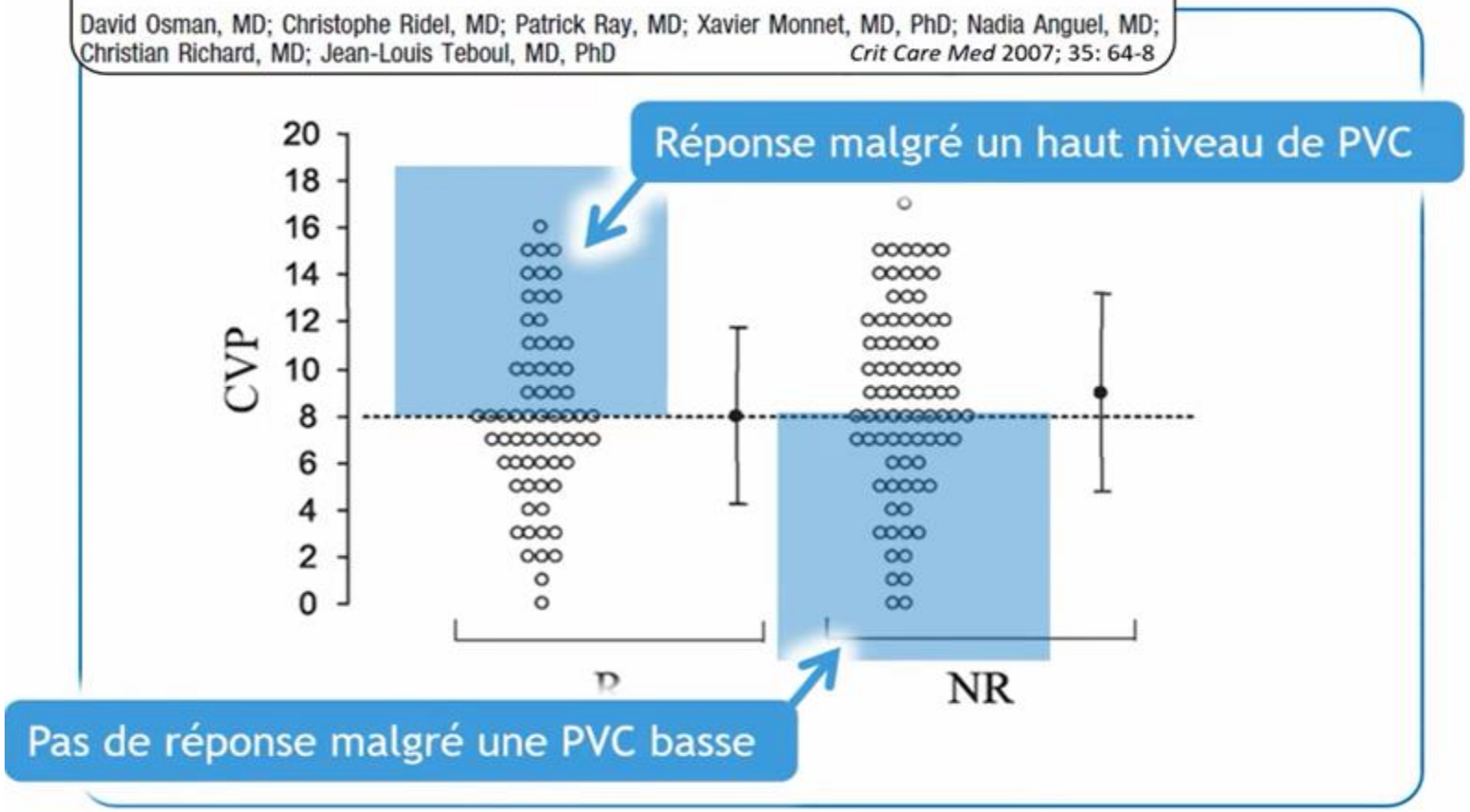
PROBLEMATIQUE ?

- PVC ET REPONSE AU REMPLISSAGE ???

Cardiac filling pressures are not appropriate to predict hemodynamic response to volume challenge*

David Osman, MD; Christophe Ridel, MD; Patrick Ray, MD; Xavier Monnet, MD, PhD; Nadia Anguel, MD; Christian Richard, MD; Jean-Louis Teboul, MD, PhD

Crit Care Med 2007; 35: 64-8



INTERETS PRATIQUES ?

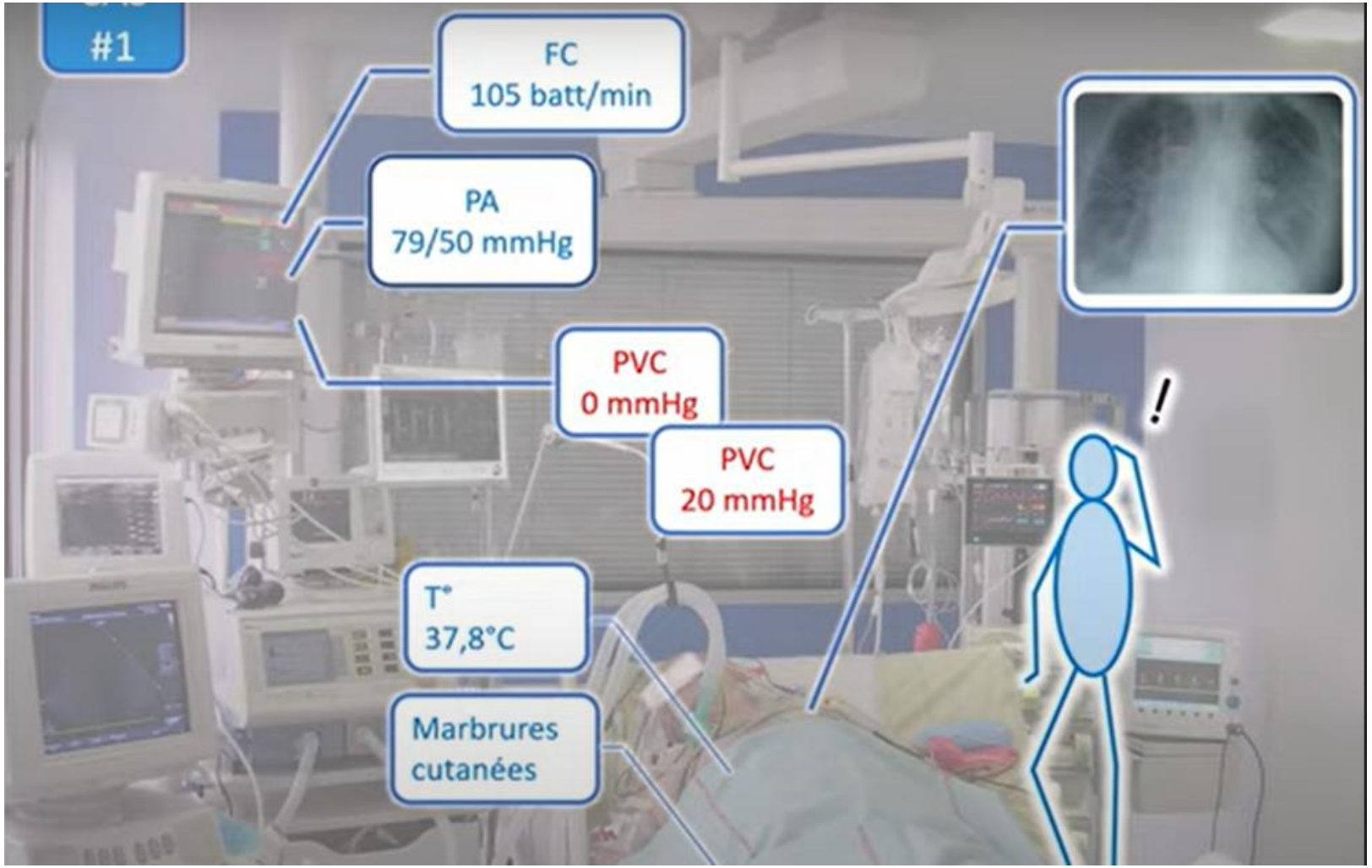
- Orientation diagnostique et détection indirecte des patients répondeurs par mesure de la variation PVC avec l'expansion volémique.

- Détection du dysfonctionnement VD ?

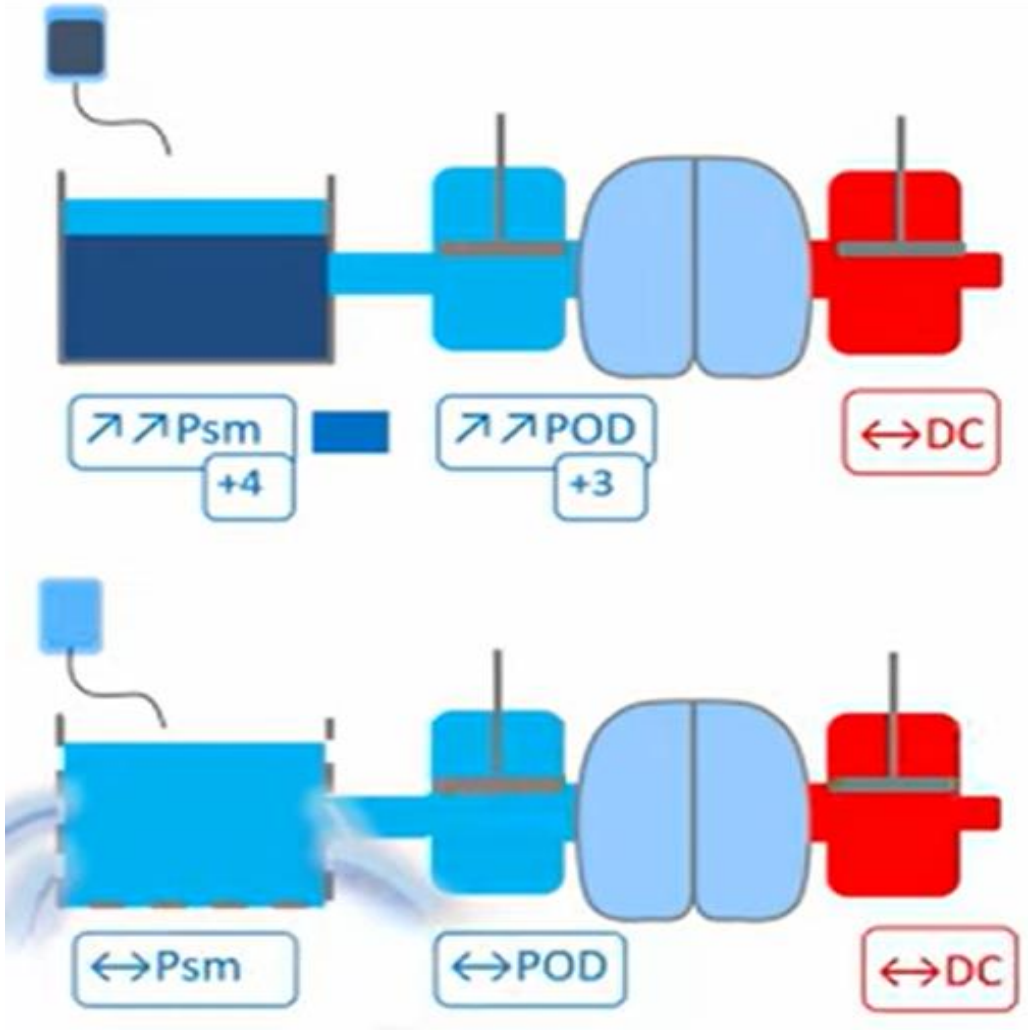
- Indice évaluant la perfusion périphérique des organes +++

ORIENTATION DIAGNOSTIQUE ?

- **Etats de choc avec PVC basse ?**
- **État de choc avec PVC élevée ?**



DETECTION INDIRECTE DES PATIENTS REPONDEURS PAR MESURE DE LA VARIATION PVC AVEC L'EXPANSION VOLEMIQUE ?



pompe

pompe

DIAGNOSTIC DU DYSFONCTIONNEMENT VD ?

CPA chez les patients ventilés
En SDRA

PVC élevée

ETT

Acute cor pulmonale in acute respiratory distress syndrome submitted to protective ventilation: Incidence, clinical implications, and prognosis

Crit Care Med 2001

Antoine Vieillard-Baron, MD; Jean-Marie Schmitt, MD; Roch Augarde, MD; J. L. Fellahi, MD; Sebastien Prin, MD; Bernard Page, MD; Alain Beauchet, MD; François Jardin, MD

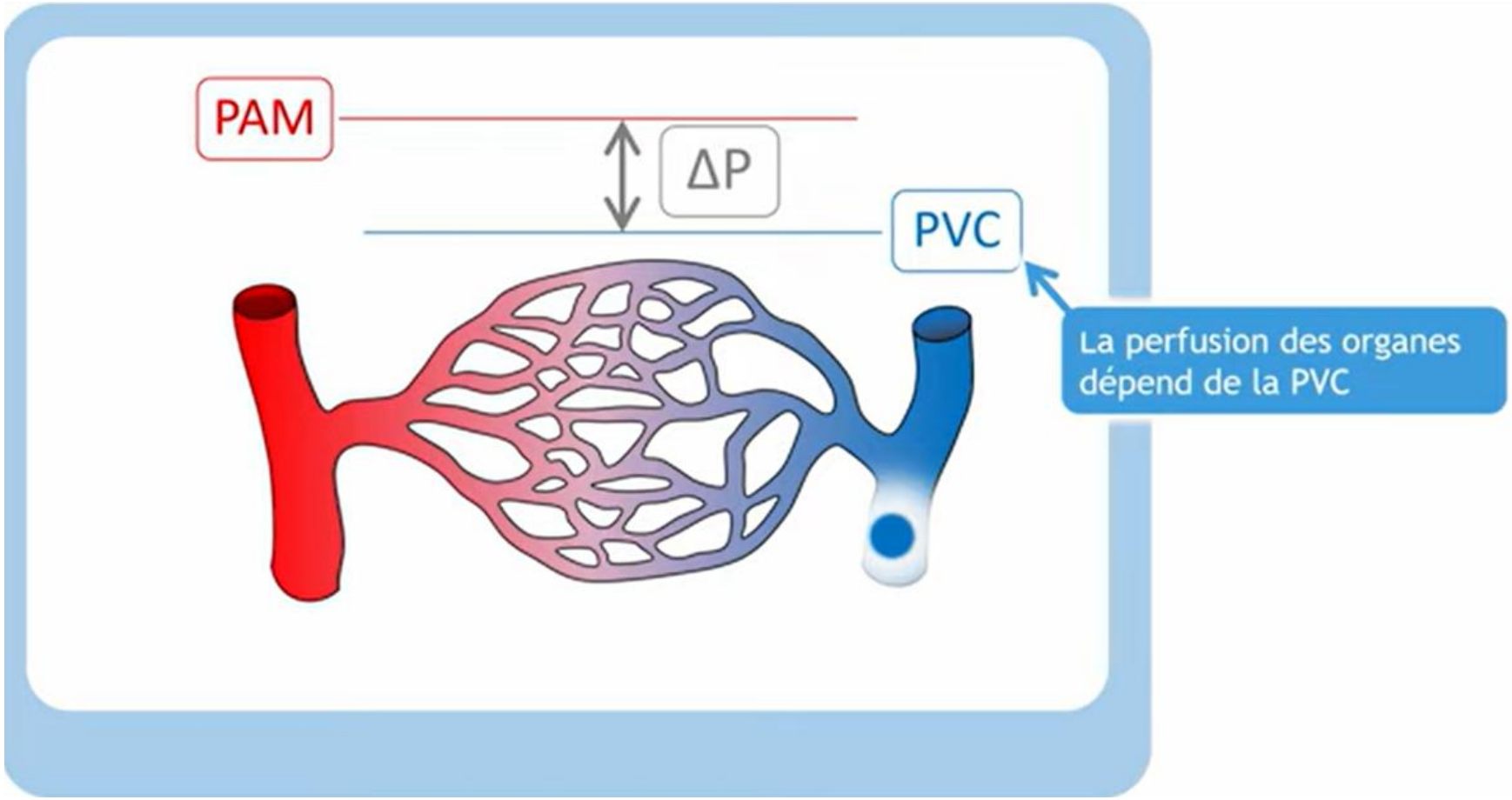
75 consecutive ARDS patients
ACP defined by RVEDA > 0.6 LVEDA + septal dyskinesia

	absence of ACP (n = 56)	presence of ACP (n = 19)
HR, beats/min	96 ± 19	112 ± 16[a]
SAP, mm Hg	114 ± 23	123 ± 25
CVP, mm Hg	12 ± 3	16 ± 3[a]
SI, cm^3/m^2	32 ± 9	25 ± 9[a]
CI, $L/min/m^2$	3.1 ± 0.9	2.7 ±
LVEDV, cm^3/m^2	60 ± 16	50 ±
LVESV, cm^3/m^2	22 ± 10	24 ± 1
LVEF, %	53 ± 11	51 ± 1
E/A ratio, %	1.3 ± 0.4	0.8 ± 0.

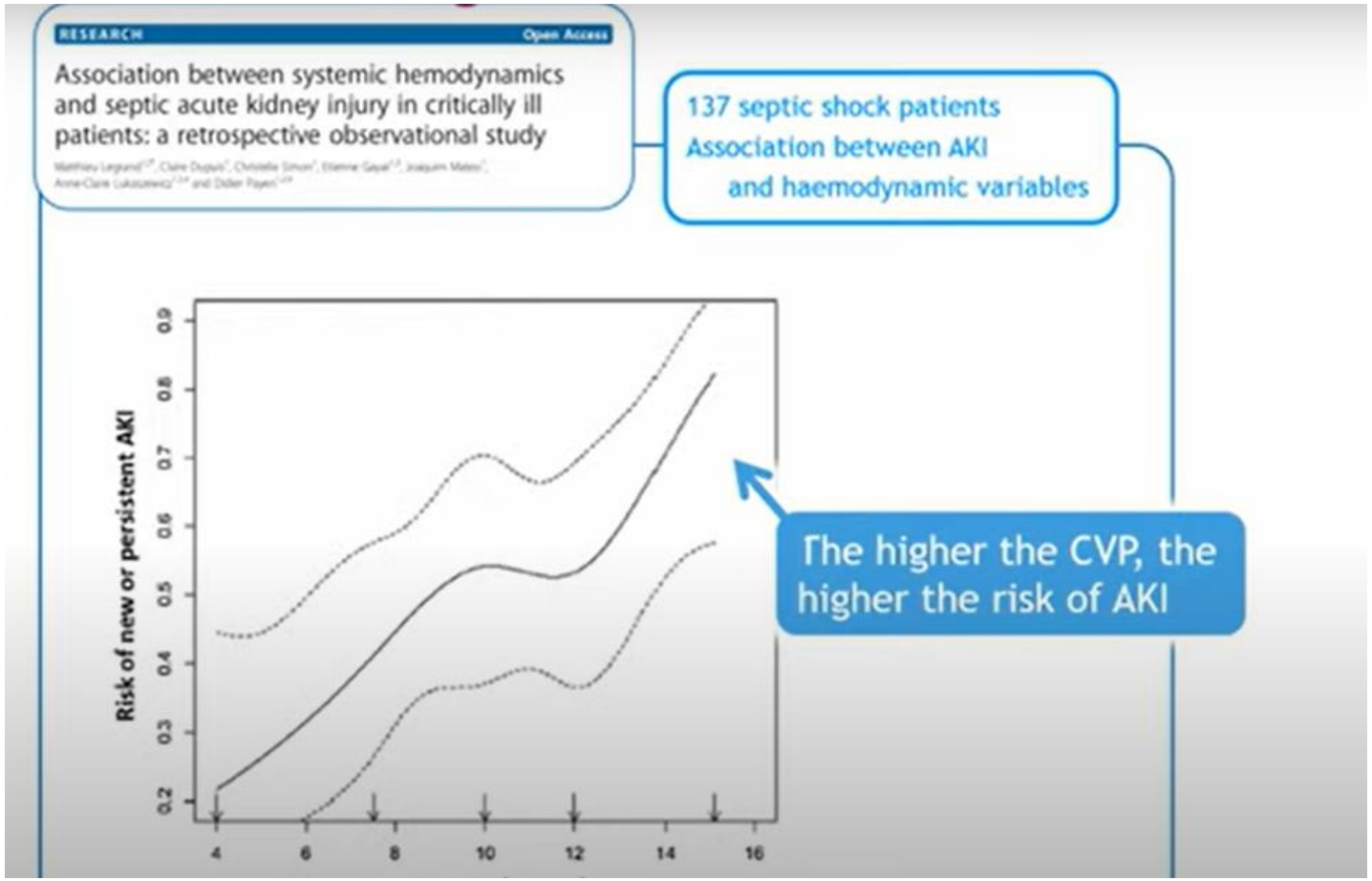
CVP is higher in case of ACP

Pause (k)

INDICE EVALUANT LA PERFUSION PERIPHERIQUE ?



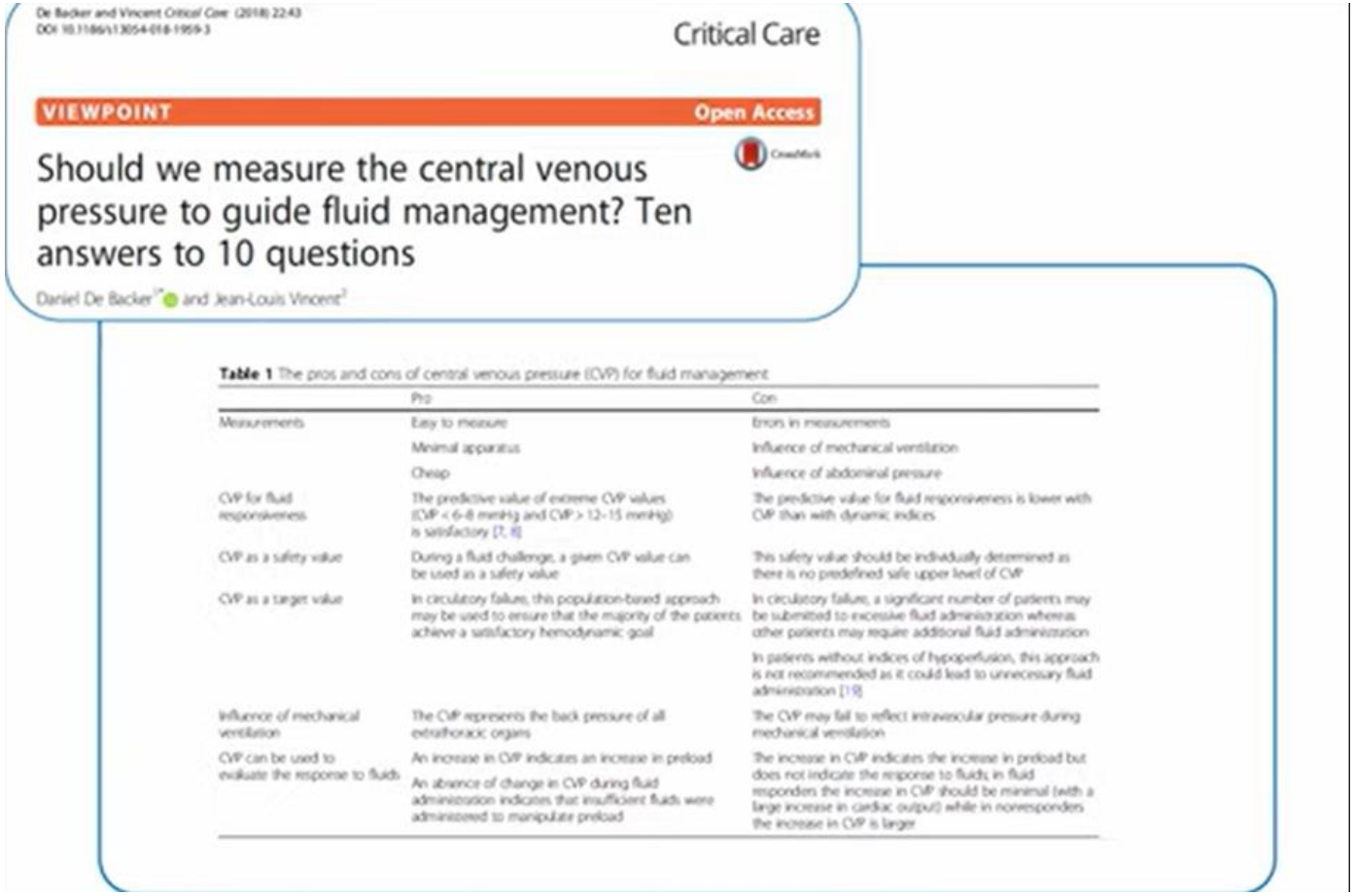
PVC ET AKI ?


RESEARCH
Open Access
Association between systemic hemodynamics and septic acute kidney injury in critically ill patients: a retrospective observational study
137 septic shock patients
Association between AKI and haemodynamic variables
Risk of new or persistent AKI
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
4
6
8
10
12
14
16
The higher the CVP, the higher the risk of AKI

CONTRAINTES ?

- Techniques de mesures +++

FAUT IL MESURER LA PVC ?



De Backer and Vincent Critical Care (2018) 22:43
DOI 10.1186/s13054-018-1959-3

Critical Care

VIEWPOINT Open Access

Should we measure the central venous pressure to guide fluid management? Ten answers to 10 questions

Daniel De Backer[1*] and Jean-Louis Vincent[2]

Table 1 The pros and cons of central venous pressure (CVP) for fluid management

	Pro	Con
Measurements	Easy to measure	Errors in measurements
	Minimal apparatus	Influence of mechanical ventilation
	Cheap	Influence of abdominal pressure
CVP for fluid responsiveness	The predictive value of extreme CVP values (CVP < 6–8 mmHg and CVP > 12–15 mmHg) is satisfactory [7, 8]	The predictive value for fluid responsiveness is lower with CVP than with dynamic indices
CVP as a safety value	During a fluid challenge, a given CVP value can be used as a safety value	This safety value should be individually determined as there is no predefined safe upper level of CVP
CVP as a target value	In circulatory failure, this population-based approach may be used to ensure that the majority of the patients achieve a satisfactory hemodynamic goal	In circulatory failure, a significant number of patients may be submitted to excessive fluid administration whereas other patients may require additional fluid administration
		In patients without indices of hypoperfusion, this approach is not recommended as it could lead to unnecessary fluid administration [19]
Influence of mechanical ventilation	The CVP represents the back pressure of all extrathoracic organs	The CVP may fail to reflect intravascular pressure during mechanical ventilation
CVP can be used to evaluate the response to fluids	An increase in CVP indicates an increase in preload An absence of change in CVP during fluid administration indicates that insufficient fluids were administered to manipulate preload	The increase in CVP indicates the increase in preload but does not indicate the response to fluids; in fluid responders the increase in CVP should be minimal (with a large increase in cardiac output) while in nonresponders the increase in CVP is larger