



Outils prédictifs du remplissage : Que faire en cas d'arythmie ?

BEYLS Christophe
DES Cardiologie et Maladies Cardiovasculaire
DESC Réanimation Médicale
21 Octobre 2016 – CAEN
Tuteur : Pr J.MAIZEL



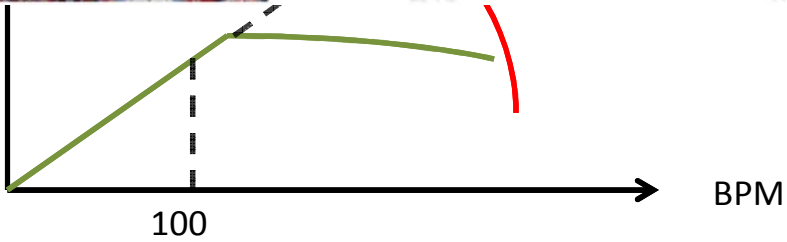
Hémodynamique et Arythmie

↑Fréquence
cardiaque

Baisse
↓ Temps

Contraction
auriculaire

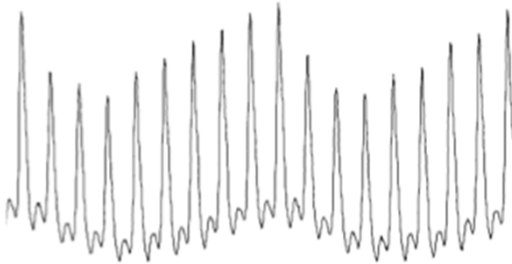
Contraction
diastolique



Indices sur les variation du VES / Ventilateur

Variation VES sur variation
de la diastole

Delta PP



Relation between Respiratory Changes in Arterial Pulse Pressure and Fluid Responsiveness in Septic Patients with Acute Circulatory Failure

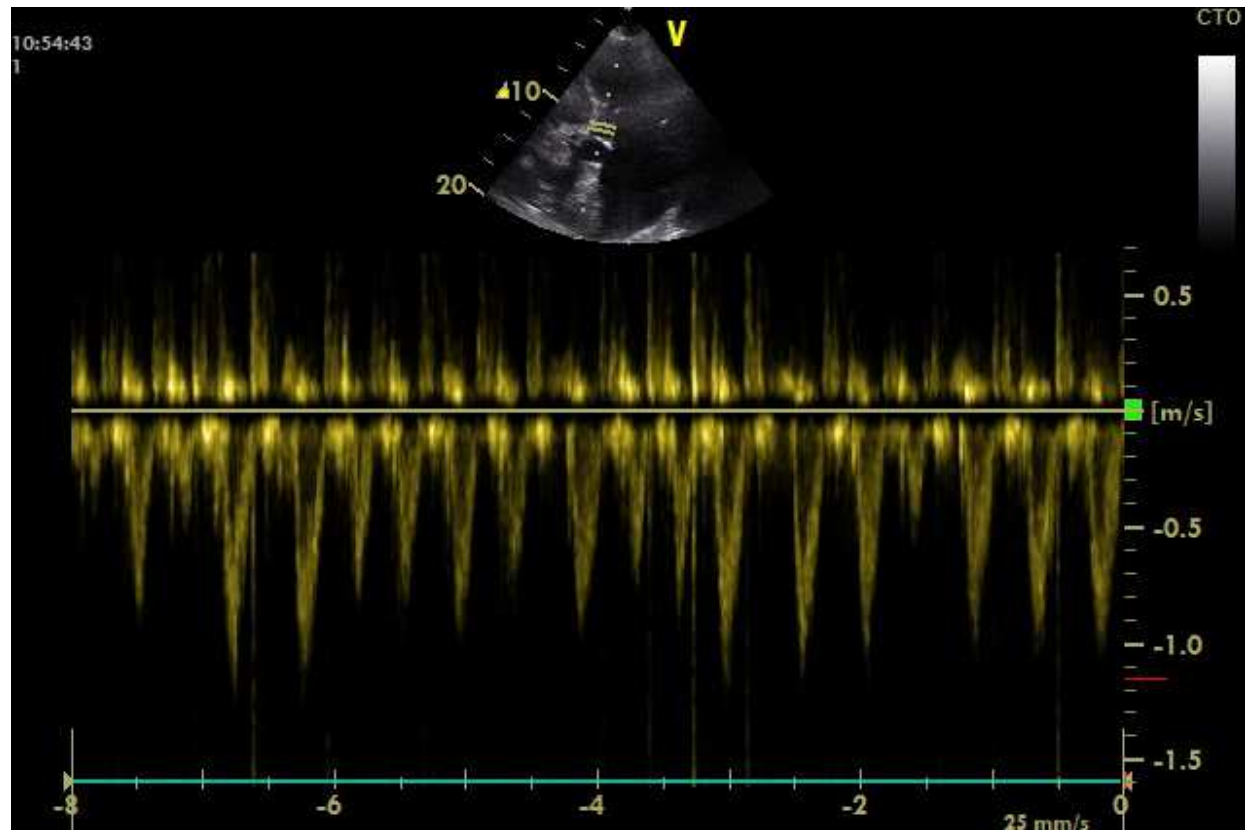
FRÉDÉRIC MICHARD, SANDRINE BOUSSAT, DENIS CHEMLA, NADIA ANGUEL, ALAIN MERCAT, YVES LECARPENTIER, CHRISTIAN RICHARD, MICHAEL R. PINSKY, and JEAN-LOUIS TEBOUL

AJRCCM - 2000



N=40
Ventilation Mécanique – ICA Sepsis
Exclusion : FA/PF<100 et PAPO>18
CO > 15% par CAP
VT 8-12ml/kg PEEP 7

- Variation Flux Aortique
(ETT/ETO)



tients.³⁻¹² However, dynamic indicators cannot be used in spontaneously breathing patients and those with cardiac arrhythmia. In addition, because the variation of aortic blood

Assessment of volume responsiveness during mechanical ventilation: recent advances

Les Index De Collapsibilité

Antoine Vieillard-Baron
Karim Chergui
Anne Rabiller
Olivier Peyrouset
Bernard Page
Alain Beauchet
François Jardin

Superior vena caval collapsibility as a gauge of volume status in ventilated septic patients

ICM – 2004

Christophe Barbi
Yann Loubières
Christophe Schmi
Jan Hayon
Jean-Louis Ricôm
François Jardin
Antoine Vieillard

Arythmies non renseignées
ou
exclues

fluid
ts

RESEARCH

Does inf
variabilit
spontaneously breathing patients?

Norair Airapetian^{1,2}, Julien Maizel^{1,3}, Ola Alyamani², Yazine Mahjoub^{2,3}, Emmanuel Lorne^{2,3}, Melanie Levrard², Nacim Ammenouche², Aziz Seydi², François Tinturier², Eric Lobjoie², Hervé Dupont^{2,3} and Michel Slama^{1,3*}

CC - 2015

Le Fluid Challenge

Ce n'es pas un indice de remplissage

Arythmies exclues

An Inc... Colloid...

The Mini-fluid Challenge Study

Anesthesiology - 2011

Laurent Muller, M.D., M.Sc.,* Medhi Toumi, M.D.,* Philippe-Jean Bousquet, M.D.,†
Béatrice Riu-Poulenc, M.D.,‡ Guillaume Louart, M.D.,* Damien Candela, M.D.,* Lana Zoric, M.D.,*
Carey Suehs, Ph.D.,† Jean-Emmanuel de La Coussaye, M.D., Ph.D.,§ Nicolas Molinari, Ph.D.,†
Jean-Yves Lefrant, M.D., Ph.D.,§ in the AzuRéa Group

Le Lever Jambe Passif

Passive leg raising predicts fluid responsiveness in the critically ill*

Xavier Monnet, MD, PhD; Mario Rienzo, MD; David Osman, MD; Nadia Anguel, MD; Christian Richard, MD; Michael R. Pinsky, MD, Dr hc; Jean-Louis Teboul, MD, PhD

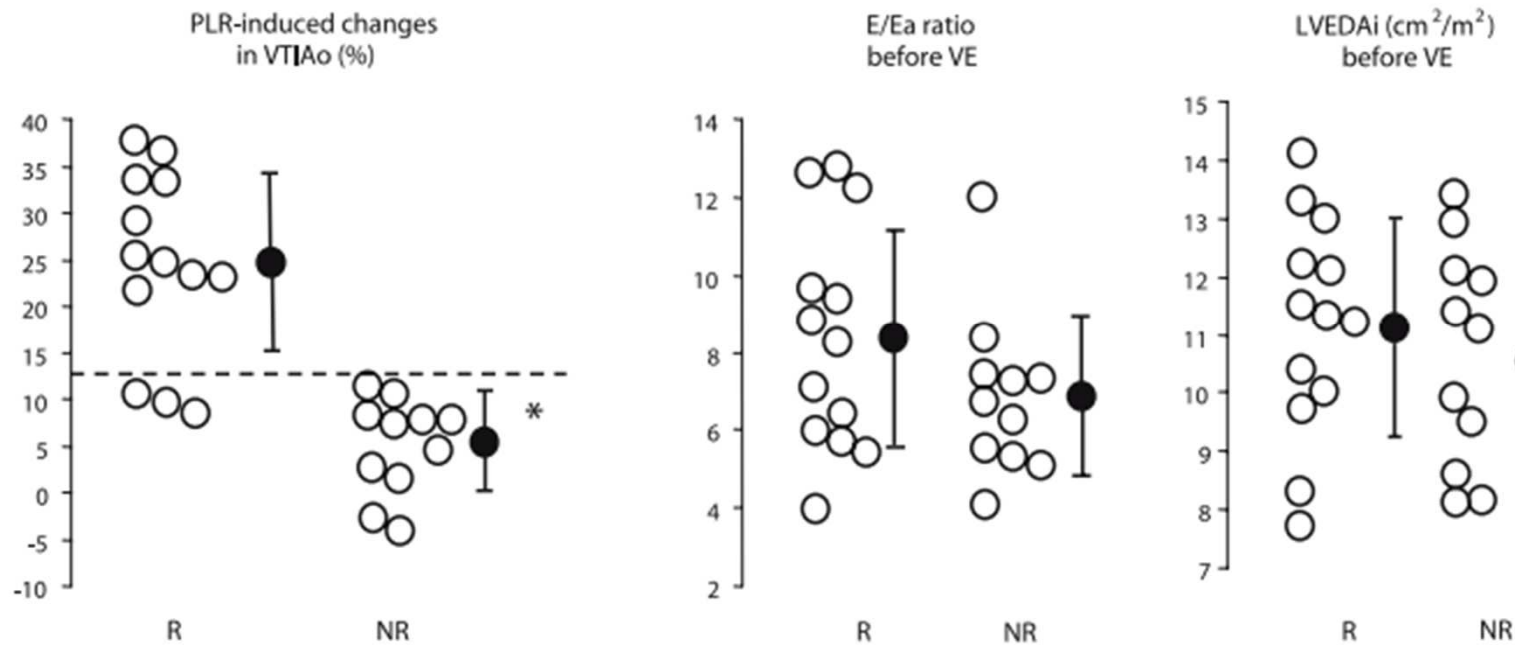
CCM - 2006

| N = 11 | Base1 | LJP | Base 2 | Post remplissage |
|-------------------|-----------|------------|-----------|------------------|
| Débit Aortique DO | | | | |
| Non répondeur | 2,8 ± 2,6 | 2,8 ± 2,7 | 2,8 ± 2,6 | 2,9 ± 2,5 |
| Répondeurs | 2,2 ± 1,5 | 2,6 ± 1,7* | 2,2 ± 1,5 | 2,8 ± 1,6* |

Bouchra Lamia
Ana Ochagavia
Xavier Monnet
Denis Chemla
Christian Richard
Jean-Louis Teboul

Echocardiographic prediction of volume responsiveness in critically ill patients with spontaneously breathing activity

N= 24 / 6 FA
Moyenne de 10 mesures
3/13 Répondeurs



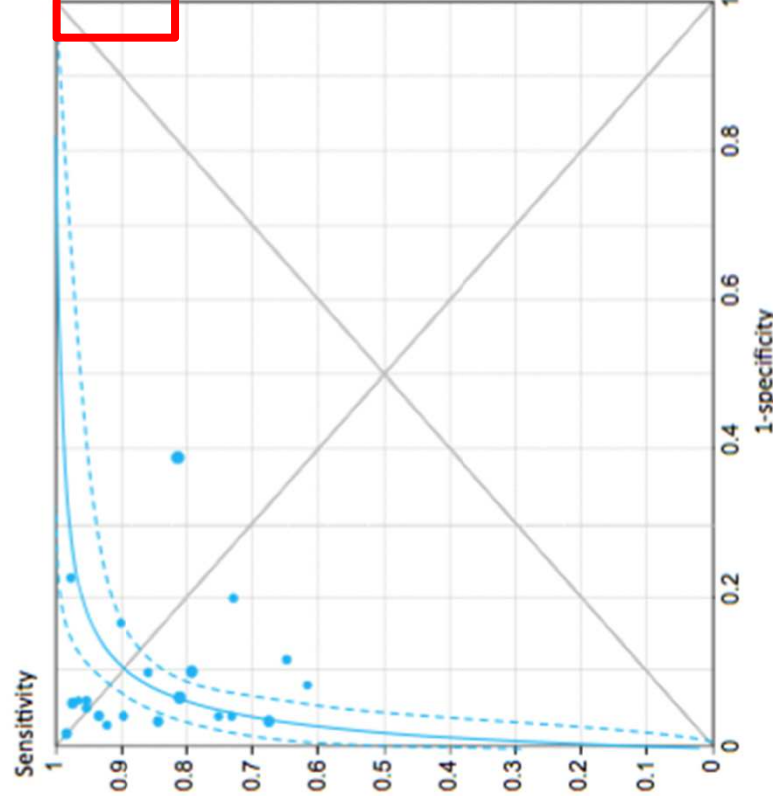


Xavier Monnet
Paul Marik
Jean-Louis Teboul

Passive leg raising for predicting fluid responsiveness: a systematic review and meta-analysis

Cardiac rhythm

| | |
|---------------------------------|-----------------------|
| Monnet et al. [34] | Sinus and arrhythmias |
| Monnet et al. [18] | Sinus |
| Dong et al. [12] | Sinus |
| Kupersztynch-Hagège et al. [13] | Sinus and arrhythmias |
| Silva et al. [14] | Sinus and arrhythmias |
| Monnet et al. [17] | Sinus/arrhythmias |
| Lamia et al. [32] | Sinus and arrhythmias |
| Maizel et al. [37] | Sinus only |
| Biais et al. [35] | No mention |
| Préau et al. [36] | Sinus |
| Guinot et al. [16] | No mention |
| Brun et al. [19] | Sinus |
| Monnet et al. [9] | Sinus and arrhythmias |
| Lafanechère et al. [31] | Sinus only |
| Monge-Garcia et al. [15] | Sinus |
| Kang et al. [23] | Sinus |
| Benomar et al. [22] | No mention |
| Marik et al. [20] | Sinus only |
| Duus et al. [11] | No mention |
| Lakkhal et al. [21] | Sinus |
| Thiel et al. [33] | Sinus and arrhythmias |



Variation PVC par la PEEP

CIRCULATION

Comparison of positive end-expiratory pressure–induced increase in central venous pressure and passive leg raising to predict fluid responsiveness in patients with atrial fibrillation

N= 43 post chirurgie cardiaque
PEEP + 10
SVI > 10%
CAP

N. Kim¹, J.-K. Shim¹, H. G. Choi², M. K. Kim¹, J. Y. Kim³ and Y.-L. Kwak^{1,*}

BJA - 2016

Table 2 Haemodynamic data after each experimental condition (responder vs non-responder). Values are expressed as mean (SD). P-values are from intragroup comparisons; PEEP vs baseline and PLR vs baseline

| | Responder (n=15) | | | | | Non-responder (n=28) | | | | |
|--|------------------|-----------|---------|-----------|---------|----------------------|-----------|---------|-----------|---------|
| | Baseline | PEEP | P-value | PLR | P-value | Baseline | PEEP | P-value | PLR | P-value |
| Heart rate (beats min ⁻¹) | 90 (32) | 91 (33) | 0.854 | 86 (30) | 0.240 | 86 (17) | 87 (20.5) | 0.403 | 88 (17) | 0.079 |
| Mean arterial pressure (mm Hg) | 77 (10) | 74 (10) | 0.068 | 79 (13) | 0.272 | 76 (10) | 77 (12.6) | 0.545 | 79 (13) | 0.079 |
| Central venous pressure (mm Hg) | 8 (3) | 10 (3) | 0.014 | 8 (4) | 1.000 | 8 (4) | 9 (3) | 0.001 | 8 (4) | 0.058 |
| Pulmonary artery occlusion pressure (mm Hg) | 14 (6) | 17 (5) | 0.001 | 15 (6) | 0.313 | 15 (5) | 17 (4) | <0.001 | 16 (4) | 0.002 |
| Cardiac index (litre min m ⁻²) | 2.7 (0.8) | 2.8 (0.8) | 0.284 | 2.8 (0.8) | 0.173 | 3.3 (0.8) | 3.3 (0.8) | 0.491 | 3.2 (0.9) | 0.407 |
| Stroke volume index (ml m ⁻² beat ⁻¹) | 32 (9) | 34 (12) | 0.295 | 35 (12) | 0.046 | 40 (12) | 39 (13) | 0.624 | 38 (12) | 0.045 |

Conclusion



Merci