Hémodynamique

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Prognostic value of capillary refill time in adult patients: asystematic review and meta-analysis

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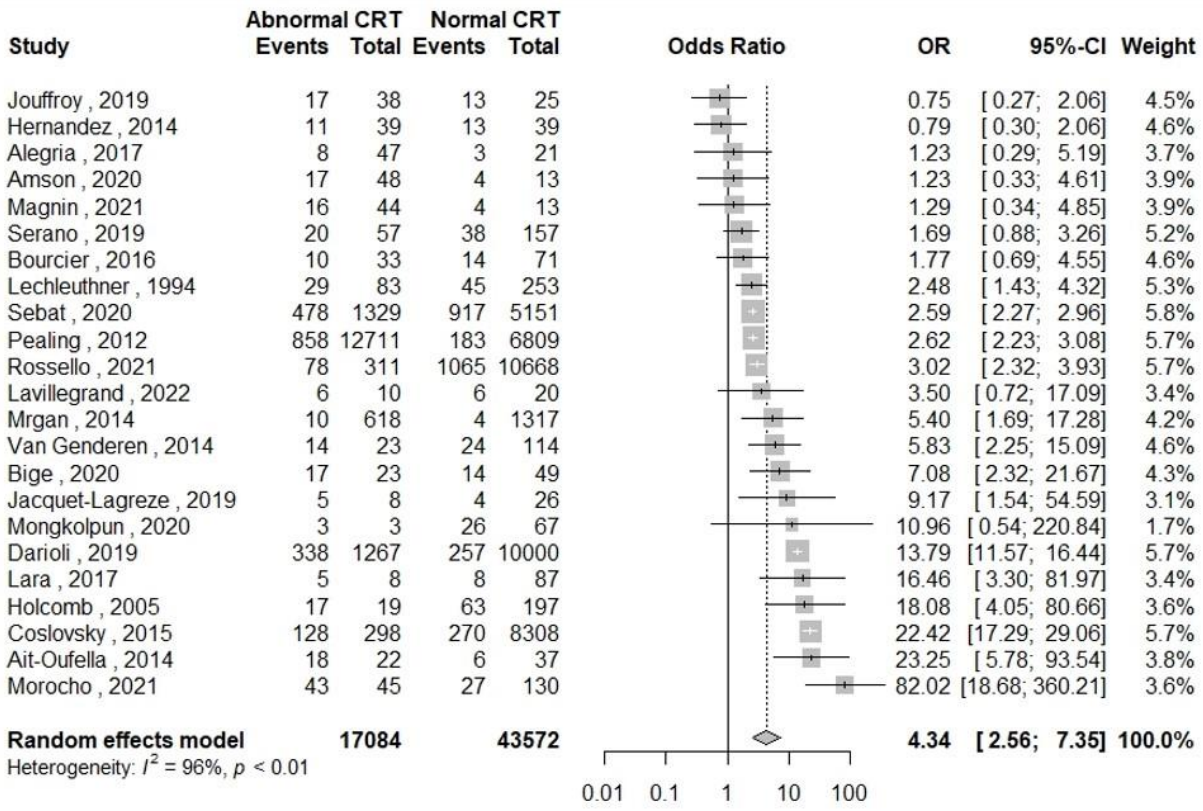
Position du problème et objectif(s) de l'étude:
Acute circulatory failure leads to tissue hypoperfusion. Capillary refill time (CRT) is widely studied in acute circulatory failure, but its predictive value remains debated. We conducted a meta-analysis to assess the ability of CRT to predict death and/or adverse events in a context at risk or confirmed acute circulatory failure in adult patients.

Matériel et méthodes:
MEDLINE, EMBASE, and Google scholar databases were screened for relevant studies. The pooled area under the ROC curve (AUC ROC), the sensitivity, specificity and threshold, and diagnostic odds ratio using a mixed model were determined. The primary analysis was the ability of abnormal CRT to predict death in patients with acute circulatory failure. Secondary analysis included the ability of CRT to predict death and/or adverse events in patients at risk or with confirmed acute circulatory failure, the comparison with lactate, and the identification of explanatory factors associated with better accuracy.

Résultats & Discussion:
A total of 23 studies were included; corresponding to 60,656 patients. Concerning the primary analysis, the pooled AUC ROC of 13 studies was 0.663 (95%CI[0.591; 0.756]), and pooled sensitivity was 54% (95%CI[43; 64]). The pooled specificity was 72% (95%CI[55; 84]). The pooled diagnostic odds ratio was
3.4 (95%CI[1.4; 8.3], P=0.013). Concerning the secondary analysis, the pooled AUC ROC of 23 studies was 0.689 (95%CI[0.648; 0.736]) (Odds ratio are depicted in Fig.1). The prediction accuracy of CRT was not significantly different from the accuracy of lactate (P=0.687). High-quality CRT was associated with a greater accuracy (P=0.009).

Conclusion:
CRT predicted death and adverse events in patients at risk or established acute circulatory failure. Its accuracy is greater when high quality CRT measurement is performed

Références bibliographiques:
1. J Crit Care;2011, 27:283–288. 2. Crit Care; 2019, 23:281. 3. JAMA ;2019, 321:654–664.



Les auteurs déclarent avoir une relation financière impliquant l'auteur ou ses proches (salaires, honoraires, soutien financier éducationnel) et susceptible d'affecter l'impartialité de la présentation.: MJL is a co-founder of the DiCARTECH company, which aims to develop a device to measure CRT.