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Vasopressor administration and sepsis: A survey of Canadian intensivists☆

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Abstract

Introduction: Patients with septic shock often receive intravenous vasopressor infusions, with little evidence available to guide their titration. We surveyed Canadian intensivists to document self-reported vasopressor titration strategies for patients with septic shock.

Methods: We identified Canadian intensivists caring for adult patients by merging membership lists of 3 Canadian critical care associations. We invited respondents to complete a scenario-based questionnaire to understand triggers for vasopressor use, target blood pressure values, and the influence of chronic comorbidities and acute illnesses on vasopressor prescription.

Results: Sixty-three percent of eligible intensivists completed our survey. Most respondents (82.6%) would frequently or always administer vasopressor therapy for isolated hypotension but not for other isolated signs of organ failure (such as elevated serum lactate or low urine output). Respondents defined low blood pressure using mean arterial pressure (83.7%) and aimed for higher values when resuscitating a patient with multiple organ failure. Chronic comorbidities and acute concurrent illnesses had variable effects on stated vasopressor prescription. Norepinephrine (94.8%) was the preferred first-line vasopressor.

Conclusions: Self-reported vasopressor use for the treatment of septic shock is relatively uniform among Canadian intensivists; however, practice is variable in patients with chronic comorbidities or acute concurrent illnesses.

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1. Introduction

Hypotension is a cardinal manifestation of septic shock for which vasoplegia (decreased vascular tone) is the traditional explanation. Although myocardial depression and relative hypovolemia contribute to hypotension in sepsis, vasodilation remains a main target for hemodynamic resuscitation [1]. Consequently, intensivists often prescribe vasopressors assuming that these agents improve tissue perfusion and, ultimately, clinical outcomes.

Current evidence-based guidelines for the management of patients with septic shock (Surviving Sepsis Campaign) recommend maintaining a mean arterial blood pressure of at least 65 mm Hg while acknowledging that the evidence base is weak (grade C) [2]. Recent observational studies, however, suggest that targeting higher blood pressures does not improve outcomes and that greater vasopressor administration, independent of blood pressure, may also increase mortality [3,4]. Without clear evidence to guide optimal vasopressor selection and titration, physician practice is likely to vary. We conducted a scenario-based survey of intensivists to determine self-reported vasopressor titration strategies of Canadian intensivists for patients with septic shock.

2. Methods

2.1. Sampling frame

Canadian intensivists caring for critically ill adults comprised the survey population of interest. We identified potential respondents and obtained e-mail addresses from the membership lists of 3 major Canadian critical care associations: the Canadian Critical Care Trials Group, the Canadian Critical Care Society, and the Société des Intensivistes du Québec. We merged these lists to obtain a final list of 557 individuals, from which we removed 238 who we deemed ineligible (Fig. 1). The final list included 319 potential respondents practicing in both university-affiliated and community hospitals.

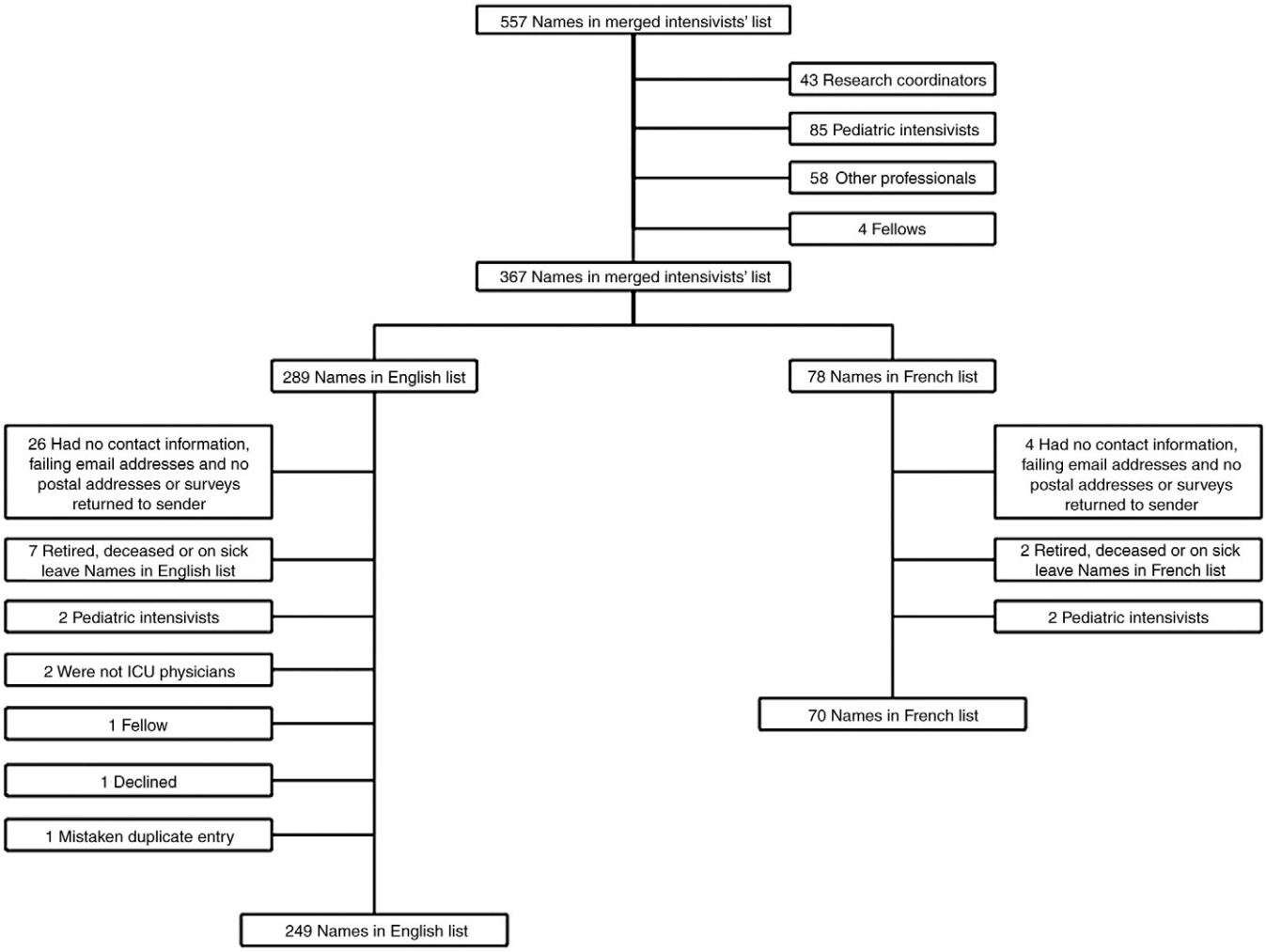

Fig. 1 Flow diagram: elaboration of the contact list.