



Hypovolemia with Peripheral Oedema: What is Wrong?

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Introduction

I read with great interest this recently published article by Professors Dull, R.O. and Hahn, R.G [1]. The authors are commended on this review based on evidence from published studies that represent the current understanding of the condition and its scientific basis. The authors have faithfully summarized the evidence based on published reports, including some of the commonly received errors and misconceptions on the scientific foundation that identifying and correcting it may help to answer the vitally important question in the title of the report. The authors acknowledge that Starling's law represents the scientific foundation of the volume-pressure relationship of the vascular capillary and interstitial fluid compartments. It thus underlies the rules that govern fluid therapy in shock management. This is the subject on which both authors are among the top world authority. My research has demonstrated clearly and completely the substantial evidence that Starling's law is wrong, and the correct replacement is the hydrodynamics of the porous orifice (G) tube [2]. That has been gathered in a book [3]. This will revolutionize our understanding of the condition and related issues particularly on the path-etiology and management of ARDS. Hypovolaemia and peripheral oedema refer to the condition that affects acutely ill patients presenting with any shock then suffer clinically with acute respiratory distress syndrome (ARDS) after fluid therapy in whom there is massive volumetric overload with hypotension shock (? Hypovolaemia) and massive fluid creep on the interstitial fluid space causing generalized oedema. It complicates fluid therapy for shock resuscitation of burns, sepsis, haemorrhage, trauma, and acute pancreatitis [4]. It initially presents as volume kinetic or volumetric overload shock (VOS) [5]. Among new scientific discoveries in physics, physiology, and medicine [6]. It has high morbidity and mortality and affects

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thousands of patients every year all over the world. Although there is hypotension shock here it is probably incorrect to assume hypovolaemia exist. Starling's law has proved wrong on both of its forces. However, it continues to dictate the current faulty rules on fluid therapy in the management of shock. It thus misleads physicians into giving too much fluid during shock resuscitation [7]. More than 21 reasons were reported to show that Starling's law is wrong [8]. The correct replacement is the hydrodynamic of the porous orifice (G) tube that was built on capillary ultrastructure anatomy of having precapillary sphincter [9]. And a porous wall [10]. That allow the passage of plasma proteins-hence nullify the oncotic pressure in Vivo. It follows that the extended Starling Principle is wrong and a misnomer and all the equations are also wrong. Commonly received but erroneous concepts and laws represent fraud in modern science. The clinical significance is that Starling's law dictates the faulty rules on fluid therapy causing many errors and misconceptions that mislead physicians into giving too much fluid infusions of albumin and crystalloids for the resuscitation of shock which both cause oedema of ISF space and vital organs as well as hypervolaemia with hypotension [11]. This shock is mistaken for septic or any known shock and is wrongly treated with further huge volume expansion, occurring with both liberal and conservative approaches of fluid therapy. This has been recognized as volume kinetic or volumetric overload shocks (VOS). Volumetric overload inducing VOS is of 2 types; VOS 1 causes the transurethral resection of the prostate [TURP] syndrome, now being linked to the acute respiratory distress syndrome [ARDS] that was reported by Ashbaugh, et al. in 1967 [12]. ARDS is caused by VOS 2 with high morbidity and mortality and acute kidney injury (AKI) as parts of the multiple organ dysfunction syndrome (MODS). Volumetric overload shock induced by persistence to elevate CVP to high level as based on the faulty Starling's law. I trust the respected authors,



and invite the world authorities, to kindly fulfil their authority and responsibility by writing an update on the subject that summarises the results of my recently reported research for the awareness of the doctors' readers and the benefit of their patients.

Declarations

Ethical Approval

Is not applicable. I consent to participate in and consent to publish this article.

Availability of data and materials

The datasets used can be accessed from the given references of published articles.

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