LONGDOM
Ahmed N. Ghanem
ISSN 2329-9495
2020
Vol.8 No.3

The correct replacement for the wrong Starling's law is the hydrodynamic of the porous orifice (G) tube: The complete physics and physiological evidence with clinical relevance and significance

Ahmed N. Ghanem and Khaled A. Ghanem, Arias Esparza

[1] Mansoura University, Faculty of Medicine, Egypt
Royal Sussex County Hospital, UK

Abstract

Introduction and objective

To report the complete evidence that Starling's law is wrong, and the correct replacement is the hydrodynamic of the G tube detailed. New physiological evidence is provided with clinical relevance and significance.

Material and methods

The physics proof is based on G tube hydrodynamic. Physiological proof is based on study of the hind limb of sheep: running plasma and later saline through the artery compared to that through the vein as regards the formation of oedema. The clinical significance is based on 2 studies one prospective and a 23 cases series on volumetric overload shocks (VOS).

Results

Hydrodynamic of G tube showed that proximal, akin to arterial, pressure induces suction "absorption" not "filtration". In Poiseuille's tube side pressure is all positive causing filtration based on which Starling proposed his hypothesis, The physiological evidence proves that the capillary works as G tube not Poiseuille's tube: Oedema occurred when fluids are run through the vein but not through the artery. There was no difference using saline or albumin. The wrong Starling's law dictates the faulty rules on fluid therapy inducing VOS causing ARDS.

Conclusion

Hydrodynamic of the G tube challenges the role attributed to arterial pressure as filtration force in Starling's law. A literature review shows that oncotic pressure does not work either. The new hydrodynamic of G tube is proposed to replace Starling's law which is wrong on both forces. The physiological proof and relevance to clinical importance on the pathogenesis of clinical syndromes are discussed. The puzzles of TURP syndrome, Dilution HN and ARDS are resolved

Biography:

Dr Ghanem was qualified in 1974, Mansoura University, Egypt. He obtained his FRCSEd from the royal college of surgeons of Edinburgh in 1983, and MD (Urology) from Mansoura University, Faculty of medicine in 1988, He gained all postgraduate experience in UK where he was promoted in posts up to the consultant level. He practiced as consultant Urologist in UK, Saudi Arabia and Egypt. During his career life he reported over 100 articles of which he made important discoveries in medicine, physiology, urology, nephrology, cardiovascular and surgery. He discovered two new types of vascular shocks, proved that one physiological law is wrong and provided an alternative. He resolved the puzzles of 3 clinical syndromes: the transurethral of the prostate (TURP) syndrome, the loin pain haematuria syndrome (LPHS) and the adult respiratory distress syndrome (ARDS). He is now on the editorial board member and peer reviewer of many medical and surgical journals, Editor-in-Chief of one journal, land he is happily retired in Egypt. He is happily retired in Egypt happily retired in Egypt dedicated to scientific medical reading and writing that helps the practicing physicians to practice precision medicine as well as correctly directing future research.

Speaker Publications:

1. Ghanem AN. The Correct Replacement for the Wrong Starling's law is the Hydrodynamic of the Porous Orifice (G) Tube: The Complete Physics and physiological Evidence with Clinical Relevance and Significance. Research Article. Cardiology: Open Access Cardio Open, 2020 Volume 5 | Issue 1 | 1-9
2. Ghanem AN and Ghanem, SA. Volumetric Overload Shocks: Why Is Starling's Law for Capillary Interstitial Fluid Transfer Wrong? The Hydrodynamics of a Porous Orifice Tube as Alternative. Surgical Science 2016; 7: 245-249. http://dx.doi.org/10.4236/ss.2016.76035
3. Ghanem SA, Ghanem KA, Ghanem A N. Volumetric Overload Shocks in the Patho-Etiology of the Transurethral Resection of the Prostate (TURP) Syndrome and Acute Dilution Hyponatraemia: The Clinical Evidence Based on Prospective Clinical Study of 100 Consecutive TURP Patients. Surg Med Open Access J. 2017: 1(1);1-7

World Heart Congress ; Online Event- September 29, 2020.

Abstract Citation:

Ahmed N. Ghanem The correct replacement for the wrong Starling's law is the hydrodynamic of the porous orifice (G) tube: The complete physics and physiological evidence with clinical relevance and significance, World Heart Congress; Online Event- September 29, 2020.