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The complete evidence that Starling's law responsible for many errors and misconceptions on fluid therapy in shock is wrong: The correct replacement is the hydrodynamic phenomenon of the porous orifice (G) tube.

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Introduction and objective: To report the hydrodynamic of a porous orifice (G) tube as replacement for the wrong Starling's law.

Material and methods: Hydrodynamics of the G tube, based on capillary ultra-structure, were studied. The effect of changing G tube orifice diameter, proximal pressure and distal pressure on the side pressure and chamber (C) pressure were evaluated. The physiological proof that the capillary works as G tube not Poiseuille's tube is provided.

Results: Hydrodynamics of the G tube showed that proximal, akin to arterial, pressure induces a negative side pressure gradient on the G tube wall, which is negative causing suction maximum near the inlet and turn positive near the exit causing filtration. This created the rapid, autonomous magnetic field like fluid circulation phenomenon between G and C. The physiological evidence on the hind limb of sheep proves that the capillary works as G tube.

Conclusion: Hydrodynamic of the G tube challenges the role attributed to arterial pressure as a filtration force in Starling's law. A literature review shows that oncotic pressure does not work, and the law has failed to explain the capillary–ISF transfer. A concept based on the new hydrodynamic phenomenon of the G tube is proposed to replace Starling's law. A rapid autonomous dynamic magnetic field-like G–C circulation occurs. Factors which initiate, regulate, and affect the G–C circulation, its physiological proof and relevance to clinical importance are given. Physiological evidence on capillary working as G tube not Poiseuille's tube is provided.

Biography

Ahmed Ghanem have 33 years long urological experience in hospitals in UK and overseas. He have excellent experience in performing competently and safely open surgical and endoscopic urological procedures for cancer, stones, congenital anomalies and trauma of the urological tract. He can do TRUS biopsy and Flexible cystoscopy well.. he have done many audits and research work and reported 60 publications in International Medical, Surgical and Urological Journals. He made many conference presentation and given many teaching sessions to nurses and doctors.

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