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Volume Kinetic (VK) shocks or Volumetric Overload Shocks (VOS) in clinical practice

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Volume kinetic (VK) shocks are cardiovascular shocks induced by acute substantial volume changes of the cardiovascular system in either direction by decrease or increase. A decrease in cardiovascular volume induces the long established and well-known hypovolemic and haemorrhagic shocks. Cardiovascular shocks induced by volumetric overload (VO) have been recently reported. Volume kinetic (VK) shocks or Volumetric Overload Shocks (VOS) are common iatrogenic complication of fluid therapy in hospitals that is overlooked and underestimated. It may present in theatre as cardiopulmonary arrest or later with coma and acute respiratory distress syndrome (ARDS). VOS is 2 types: VOS1 and VOS2. VOS1 is induced by 3.5-5 L of sodium-free fluid and is characterized with dilution HN that has 2 nadirs and 2 paradoxes, is most dynamic and illusive and currently has a lifesaving therapy of 5%NaCl or 8.4%NaCo3. VOS2 may complicate VOS1 or occur de novo complicating sodium-based fluid therapy during resuscitation of shock, acutely ill patients, and prolonged surgery. It has no obvious serological markers or none. Between 3-10 L of sodium-based fluids induce VOS 2, and 12-14 L cause mortality. Many errors and misconceptions mislead physicians into giving too much fluid for resuscitation due to faulty rules on fluid therapy dictated by the wrong Starling's law. The correct replacement for this law is the hydrodynamic of the porous orifice (G) tube. These scientific discoveries should make the Medical World wake up and pay attention.

Key Words

Hyponatraemia; shock; the transurethral prostatectomy syndrome; the adult respiratory distress syndrome, Starling's law, Capillary hydrodynamics

Suggested References

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Biography

Dr. Ahmed Nasr Ghanem was educated in Egypt and qualified in 1974, Faculty of Medicine, Mansoura University, Egypt. He spent his internship at [Mansoura University Hospitals](#). 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 attended many conferences and won the award of Princes Alexandra Memorial Award and reported over 100 articles of which he made 15 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 the replacement of G tube hydrodynamic. He resolved the puzzles of 3 clinical syndromes: the transurethral resection of the prostate (TUR) syndrome, the loin pain haematuria syndrome (LPHS) and the adult [respiratory distress syndrome](#) (ARDS). Now he is happily retired in Egypt dedicating his time to writing scientific medical articles and peer reviewing and he is an editorial board member for many Journals. He was the Editor in Chief for *Surgical Medicine Open Access Journal* (SMOAJ). He authored 8 books and published 6.

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