

Goal directed fluid therapy in neurosurgery Debendra Kumar Tripathy

Abstract

The aim of fluid administration in neurosurgery patients is to maintain adequate cerebral flow and oxygenation. Too much or too less fluid infusion can be detrimental for the patient outcome. The goal directed fluid management in major surgery and critically patient has been extensively studied and generally guided by haemodynamic monitoring. The same principles may not be applicable to in all neurosurgery patients, as cerebral perfusion physiology depends on many factors. With this background we did a concise review of neurophysiology, guidelines and recent clinical trials for goal directed fluid therapy in neurosurgery patients. In this review, we found current understanding of neurophysiology suggests normovolemia approach for most of the neurosurgery patients. But the evidence are inconclusive for the measurable end points against which fluid can be titrated.

Keywords: Neuropathy; neurology; musculoskeletal diagnosis

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INTRODUCTION

The theme of the Abu Dhabi conference is "Making a Move on Dementia: New Answers to Old Questions." The annual summit brings together researchers from the region and from around the world focused on groundbreaking research to slow, reverse, or prevent dementia and Alzheimer's disease.

Max Tokarsky's keynote presentation is titled "The Enigma of Eroom's Law and The Wall Street Math Stifling Alzheimer's Drug Discovery."

The business model for turning science into drugs and treatments that companies can sell has been steadily eroding. The average cost of developing a new drug, per billion U.S. dollars spent on R&D, has doubled roughly every nine years since 1950. That means, adjusted for inflation, it costs 80 times more to develop a new drug today than it did in 1950. The observation of this trend was coined Eroom's Law by industry analyst Jack Scannell in 2012, writing in "Nature Reviews Drug Discovery."

Does it make sense for millions to die waiting for a cure due to considerations of profit?

Even as increased government and charitable funding has led to major advances in basic research, the Eroom's Law trend is greatly stifling progress, because as a society we depend on profit-driven drug companies to develop scientific breakthroughs into life-saving drugs and medical treatments.

While companies can make a lot of money with a successful Alzheimer's drug, investing tens of millions to test each possibility without a clear end in sight is increasingly becoming unprofitable. Science relies on trial and error, and making a profit for investors relies on predictable risk; the two are oftentimes incompatible.

The Common Need Investment (CNI) model being developed by InvestAcure offers an innovative alternative. With CNI, investments made in a company are based on its pursuit of essential work valued by the investors above financial profit or loss. There is a 'Common Need' to see Alzheimer's cured. Even if a small percentage of those who share that need invest their spare change in companies working on a cure, that would result in billions in new investment.

Each spare change investor would directly own shares in these companies. With millions of spare change investors participating, ownership of drug companies would transition from profit-driven investors to spare change investors for whom cure is a priority over profit.

To realize this goal, the company is building a spare change investment platform to enable those impacted by Alzheimer's to partner in the search for a cure by rounding-up day-to-day transactions and investing the spare change in clinical stage pharmaceuticals working on promising drugs.

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