Efficacy of Cold Plasma in Stimulating Hippocampal: A Review of Concepts and Methods for Determination of Plasma Dose as a Central Challenge in Plasma Medicine

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ABSTRACT

Plasma dose is a major challenge in plasma medicine. Understanding the concept of dose in plasma medicine is a key issue for the safe and effective use of this technology. Unlike drugs or ionizing radiation, the dose in plasma medicine is not a simple, single quantity; rather, it is a combination of various physical and chemical parameter. These parameters are influenced by how the plasma is applied, its energy, and the biologically active agents involved. One of the challenges in determining the optimal and effective dose is the absence of a universal standard unit. An effective dose may produce completely different biological effects with different gases (helium or argon) because the chemical composition of the plasma changes. For example, the effective dose required to kill cancer cells differs markedly from the dose needed to heal diabetic wounds or promote cell regeneration. For the future clinical use of plasma medicine, the development of devices that can deliver the appropriate "dose" is absolutely necessity. This research attempted to address the complexities of defining dose in plasma medicine. To this end, the main components of plasma dose, the parameters that influence it, and the standard units used to express plasma dose in current research trends were carefully reported.

Keywords: CAP, Dose, Optimization, Plasma medicine, Standards

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