The production of high dose hydrogen gas by the AMS-H-01 for treatment of disease

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Abstract

Hydrogen gas is a new and promising treatment option for a variety of diseases including stroke. Here, we introduce the AMS-H-01, a medically approved machine capable of safely producing ~66% hydrogen gas. Furthermore, we propose the significance of this machine in the future of hydrogen gas research.

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RC conceived, collected the information/figures/references, and drafted the manuscript. LH participated in the manuscript drafting and editing, as well as gathering the references. JZ is the corresponding author, and participated in conceiving and revising of the manuscript. All authors read and approved the final manuscript.

Conflicts of interest
None.

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computer, the AMS-H-01 impressively produces a ~66% hydrogen gas mixture in real time at a rate of 2–3 L/min. Through a unique water electrolysis method (Asclepius Meditec Co. Ltd., 2016b), the AMS-H-01 splits molecular water into its stoichiometric 2:1 hydrogen to oxygen ratio, explaining the ~66.6% hydrogen and ~33.3% oxygen gas mixture produced by the machine. The AMS-H-01 was created using multiple patents, and strict testing was required for medical approval. Other devices may be able to produce a similar concentration of hydrogen gas but have not met “Medical Device III” requirements (Asclepius Meditec Co. Ltd., 2016b).

Importantly, the AMS-H-01 was designed with an emphasis on safety. Its design prevents formation of a hydrogen and oxygen gas cavity during the electrolysis process. Prevention of gas accumulation as well as an atomization process that occurs in combination with water allows the AMS-H-01 to avoid spontaneous combustion (Asclepius Meditec Co. Ltd., 2016b).

Since the benefits of low dose hydrogen gas have already been supported in literature, we hypothesize that high dose hydrogen gas will demonstrate greater treatment efficacy than low dose hydrogen gas. However, this hypothesis needs to be supported by future studies using AMS-H-01 or an alternate machine capable of producing high dose hydrogen. Optimistically, if high dose hydrogen gas is shown to be beneficial, we predict that human clinical trials will proceed quite rapidly due to the ease of hydrogen gas administration in a clinical setting.

Figure 1: The AMS-H-01 is equipped with a nasal breathing mask for human treatment by inhalation.

Figure 2: The AMS-H-01 is equipped for animal treatment.
Note: The larger container is used to hold animals during treatment sessions; while, the smaller box is used for moisture and carbon dioxide removal.

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