Hyperpolarization vs. Gadolinium Retention in the Brain: Topic Highlight

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ABSTRACT

Recent findings and reports came to the conclusion that gadolinium retained in the brain and in the human body in general after undertaken an MRI scan with contrast. Many governmental institutions claim that gadolinium is retained in the brain, but has no effect on human health. This paper will show both sides of the conversation regarding gadolinium retention in the brain and gadolinium replacement like hyperpolarization as a promising technique instead of using the gadolinium.

Key words: MRI; Gadolinium; Hyperpolarization; 13 carbon; Pyruvate

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Hyperpolarization is a challenging issue as well\(^5\). Hyperpolarization required dedicated coils because it used with non-proton nuclei like 15 nitrogen and 13 carbon\(^5\). Another issue is, every molecule (that will be hyperboliz) has its own relaxation and polarization properties\(^5\).

**CONCLUSION**

Hyperpolarization is a promising technique and it faces many challenges, but it is still a better replacement for gadolinium. Gadolinium maybe with time will not be in use anymore. There is an urgency in finding another safe replacement which is required by medical professionals and patients as well.

**REFERENCES**