Advances in MRS for Clinical Use

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Although proton MR Spectroscopy (MRS) is a relatively mature technique (more than 20 years old for studies in humans), it continues to evolve in terms of both technology and applications. Significant advances over the last few years include the transition to high field (3T, and recently 7T) magnets, the development of clinically feasible, fast magnetic resonance spectroscopic imaging (MRSI) sequences, and MRSI sequences with high spatial resolution and extensive brain coverage (e.g. using echo-planar spectroscopic imaging (EPSI)). Other recent developments include MRS and MRSI with 32-channel phased-array head coils, improved strategies for water and lipid suppression, and also MRSI of the cervical spine.

An important issue for the future development of clinical MRS and MRSI is the standardization of pulse sequences and analysis procedures across vendors, so that results may be directly compared across different systems.

References: