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## Correction of HEAL Registry Data Report

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useful metabolite that has a role in the metabolism of phospholipids, indicative of a rise in membrane turnover upon increased Cho expression. Its expression level is usually increased in subacute and acute MS lesions.<sup>5</sup> An increase in the amount of Cho-containing compounds has been detected in prelesional NAWM, at least 12 months before lesions became visible by conventional MR imaging as a result of early myelin membrane pathology.<sup>6</sup> It is noteworthy that Cho seems to be relatively stable outside of MS lesions. We think that this metabolite should be considered a reference for evaluating NAA values, possibly in combination with Cr determination, and that Cho could become a useful alternative biomarker to Cr in nonlesional WM. In a previous report, our group also found a significant decrease in NAA in NAWM without a concomitant decrease of the NAA/Cr ratio.<sup>3</sup> Conflicting results have been published regarding the Cr concentration in MS lesions.

In our opinion, the determination of more than one ratio by spectroscopy, including NAA/Cr and NAA/Cho, could be more beneficial than evaluating a single ratio, would allow for a better understanding of the pathophysiologic mechanisms of MS, and, if there is agreement between the results, would lend consistency to the spectroscopic data.

## References

1. Caramaros Z, Narayanan S, Arnold DL. **1H-MRS quantification of tNA and tCr in patients with multiple sclerosis: a meta-analytic review.** *Brain* 2005;128:2483–506
2. Davies SE, Newcombe J, Williams SR, et al. **High resolution proton NMR spectroscopy of multiple sclerosis.** *J Neurochem* 1995;64:742–48
3. Casanova B, Martínez-Bisbal MC, Valero C, et al. **Evidence of wallerian degeneration in normal appearing white matter in the early stages of relapsing-remitting multiple sclerosis: a 1-HMRS study.** *J Neurol* 2003;250:22–28
4. Ranjeva JP, Pelletier J, Confort-Gouny S, et al. **MRI/MRS of corpus callosum in patients with clinically isolated syndrome suggestive of multiple sclerosis.** *Mult Scler* 2003;9:554–65
5. Degaonkar MN, Khubchandani M, Dhawan JK, et al. **Sequential proton MRS study of brain metabolite changes monitored during a complete pathological cycle of demyelination and remyelination in a lysophosphatidyl choline (LPC)-induced experimental demyelinating lesion model.** *NMR Biomed* 2002;15:293–300
6. Tartaglia MC, Narayanan S, De Stefano N, et al. **Choline is increased in prelesional normal appearing white matter in multiple sclerosis.** *J Neurol* 2002;249:1382–90

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## Correction of HEAL Registry Data Report

A single case of aseptic meningitis occurred in the 191 patients (0.5%) treated in the HydroCoil for Endovascular Aneurysm Occlusion (HEAL) registry, but this adverse event was inadvertently not included in the results that were published recently in *AJNR*.<sup>1</sup> Nine days after coil therapy of an unruptured 20-mm carotid artery ophthalmic segment aneurysm, the patient presented with headache, photophobia, meningismus, nausea, and vomiting. CSF analysis revealed elevated protein and elevated lymphocytes. The patient was treated with corticosteroids and recovered completely during a 3-week period without neurologic sequelae. This case was discussed in my presentation of the HEAL periprocedural results at the meeting of the American Society of Neuroradiology in 2005 in Seattle.

## Reference

1. Cloft HJ. **HydroCoil for Endovascular Aneurysm Occlusion (HEAL) study: periprocedural results.** *AJNR Am J Neuroradiol* 2006;27:289–92

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