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Bernasconi, A;Cendes, F;Theodore, W;Gill, RS;Koepp, M;Hogan, RE;Jackson, G;Federico, P;Labate, A;Vaudano, AE;Blümcke, I;Ryvlin, P;Bernasconi, N

Title:
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Date:
2019-10-01

Citation:
Bernasconi, A., Cendes, F., Theodore, W., Gill, R. S., Koepp, M., Hogan, R. E., Jackson, G., Federico, P., Labate, A., Vaudano, A. E., Blümcke, I., Ryvlin, P. & Bernasconi, N. (2019). Response to commentary on recommendations for the use of structural MRI in the care of patients with epilepsy: A consensus report from the ILAE Neuroimaging Task Force. Epilepsia, 60 (10), pp.2143-2144. https://doi.org/10.1111/epi.16324.

Persistent Link:
https://hdl.handle.net/11343/286343

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Article type : Letter

Response to commentary on Recommendations for the use of structural MRI in the care of patients with epilepsy: A consensus report from the ILAE Neuroimaging Task Force

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KEY WORDS: Epilepsy, structural magnetic resonance imaging, adults, pediatrics

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We wish to thank Rosenow and colleagues for their interest and comments on our ILAE recommendations on the use of MRI in the care of people with epilepsy [1].

The authors point out that gradient recall echo (GRE-T2*) or susceptibility weighted imaging (SWI) should be integrated in a standard work-up of epilepsy. Although we agree in principle with the utility of these imaging contrasts in the evaluation of patients with cavernoma-related epilepsy, we would like to counterargue.

Cerebral cavernous malformations (CCM), also called cavernous hemangiomas, comprise 10-15% of all CNS vascular lesions [2]. Their annual detection rate incidence has been estimated at 0.56 per 100,000 per year for adults>16 years of age [3]. The most common clinical symptoms of CCM include seizures (50%), intracranial hemorrhage (25%), and focal neurological deficits without evidence of recent hemorrhage (25%) [4]. A significant fraction of cases (20%-50%) have no symptoms and are discovered incidentally due to widespread availability and utilization of MRI [5].

CCM are generally sporadic and characterized by a single lesion. Conversely, the autosomal dominant familial form, which accounts for 10–30% of all cases [6], is associated with multiple lesions. In these cases, the probability that new lesions develop during lifetime makes it necessary to have imaging surveillance of family members.

In clinically symptomatic patients, conventional MRI sequences, including high-resolution T1 magnetization prepared rapid gradient echo (MPRAGE), T2-weighted and FLAIR sequences as those proposed in the harmonized neuroimaging of epilepsy structural sequences (HARNESS) MRI protocol, identify CCM with a specificity and sensitivity nearing 100%. Their image appearance include a central reticulated core containing blood products (with intensity variations depending on the time of bleeding), as well as a surrounding hemosiderin ring [3; 7; 8]. GRE-T2* and SWI are the mainstay sequences to identify familial CMM, as these sequences are most sensitive to small lesions undetected on conventional sequences [9; 10].

While we agree that electrophysiology cannot disentangle the specific effects of hemosiderin or blood products on electrical activity, clinicians use clues such as family history to estimate the risk for CCM in a given patient. Thus, as specified in the current ILAE recommendation [1], the Committee is of the opinion that dedicated sequences could be added in appropriate clinical circumstances. In other words, an SWI sequence would be relevant only in patients in whom the HARNESS-MRI protocol is non-informative.

We confirm that we have read the Journal's position on issues involved in ethical publication and affirm that this report is consistent with those guidelines.'

Disclosure

Neither of the authors has any conflict of interest to disclose.

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