Contraction versus contracture and centronuclear myopathy versus central part myopathy in malignant hyperthermia

Dear Editor,

We read with great interest the review article by Correia et al. "Malignant hyperthermia: clinical and molecular aspects" (Hipertemia maligna: aspectos moleculares e clínicos) and would like to comment on some aspects.

In the section "Malignant hyperthermia", item "Contraction to exposure to halothane-caffeine (TCHC) Test", Correia et al. use the term "contraction" instead of the original term "contracture". The test for diagnosis of susceptibility to malignant hyperthermia (MH) is based on the normal contracture response after administration of caffeine/halothane, and not on the normal response of muscle contraction after electrical stimulation, which is applied throughout the test to prove viability of the muscle fragment tested. Fig. 1 shows the difference between contraction and contracture in the chart of a positive test in a patient susceptible to MH. Thus, the nomenclature should be "contracture test" in English and teste de contratura in Portuguese.

Also in this subsection, we emphasize that the cutoff levels of TCHC cited correspond to values used in the U.S. group of HM (MHAUS – www.mhaus.org) protocol. Moreover, the protocol of the European MH Group (EMHG – www.emhgb.org) differs from the U.S. one in additional aspects that were not mentioned, such as the number of fragments tested (six in the U.S. and four in the European protocol), halothane administration (single dose of 3% in the U.S. and an increasing dose from 0.5% to 3% in the European protocol) and finally the cutoff, which is 0.2 g to for halothane 2% and 0.2 g for caffeine 2 mm in the European protocol.

Unlike that noted by Correia et al., in Brazil the Cedhima (Center for the Study, Diagnosis and Research for Malignant Hyperthermia), Escola Paulista de Medicina, Universidade Federal de São Paulo (UNIFESP) uses the European MH group protocol for in vitro muscle contracture testing (IVCT). In the same section "Malignant hyperthermia", item "Treatment", Correia et al. include as an indicated measure the "Replacement of anesthesia circuit by other circuit uncontaminated by anesthetic agent". It is important to emphasize here that there is no indication for this measure during the treatment of a crisis, but only in the preparation of the anesthetic machine for anesthesia in a patient with a history of HM. At the time of a MH crisis we must "disconnect the vaporizer, but with no waste of time changing the circuit or the anesthetic machine". In "Dantrolene" item, although Correia et al. state that the modern clinical use of dantrolene is restricted to malignant hyperthermia, this drug is still employed in the management of spasticity.

Furthermore, the maintenance of dantrolene for 24–48 h after the initial treatment of HM crisis is important to avoid

![Figure 1](http://dx.doi.org/10.1016/j.bjane.2013.03.004)
Correlated
disease''.
Histological
depicts a fiber
position, i.e., just below the cytoplasmic membrane.

References

Helga Cristina Almeida Da Silva *, Pamela Vieira De Andrade, José Luiz Gomes Do Amaral

Escola Paulista de Medicina, Universidade Federal de São Paulo (Unifesp), São Paulo, SP, Brazil
Corresponding author.
E-mail: halsilva@uol.com.br (H.C. Almeida Da Silva).
http://dx.doi.org/10.1016/j.bjane.2013.06.018