CORRESPONDENCE

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Duchenne’s Muscular Dystrophy and Malignant Hyperthermia: Another Warning

To the Editor:—Duchenne’s muscular dystrophy (DMD) is an X-linked disorder associated with skeletal muscle destruction and cardiac muscle dysfunction. After a progressive period of increasing disability, death usually occurs in the second decade of life. Sudden cardiac arrest in the recovery room and acute exacerbation of the muscle destruction have been reported following anesthesia and surgery.1,2 A few cases of malignant hyperthermia (MH) have been diagnosed in patients with DMD based on clinical criteria.3,4 Recently Kelfer et al.5 described a patient with DMD who, after a benign halothane anesthetic, suffered a cardiac arrest in the recovery room. Muscle biopsy investigation, using the technique of calcium uptake into isolated sarcoplasmic reticulum showed that the patient was also susceptible to developing MH.

Brownell et al. also recently have reported maseter spasm and ventricular fibrillation in a patient with DMD following succinylcholine.6 The caffeine contracture test on the biopsied vastus lateralis muscle showed a response indicating MH susceptibility.

We recently have performed biopsies the vastus lateralis muscle of a 4-year-old boy with muscle weakness and histologic evidence consistent with DMD. There was no family history of MH. Femoral nerve block with 1% carbocaine and sedation with diazepam was used to provide anesthesia. We found that the muscle, when tested for the response to halothane responded with 0.75 g contracture to 2% halothane; consistent with susceptibility to MH.7,8 The response to caffeine was normal, however, we have observed that in approximately 50% of biopsy specimens from MH positives, the response to caffeine is normal, although a response diagnostic of MH is observed with halothane alone.8

Malignant hyperthermia susceptibility has been associated with several specific muscle disorders such as central core disease and King Denborough syndrome, as well as nonspecific myopathies.9 It now seems appropriate to state that patients with DMD are at greater risk for MH compared with the general population. Although not all DMD patients are at risk for MH and certainly not all MH patients are likely to have DMD, nevertheless, precautions appropriate for MH should be considered for DMD patients about to undergo anesthesia.

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REFERENCES


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