

GUIDELINES FOR THE MANAGEMENT OF A MALIGNANT HYPERTHERMIA CRISIS

The reduction in mortality from Malignant Hyperthermia (MH) is as result of an awareness of MH by anaesthetists, its early detection (diagnosis) and the advances in monitoring standards on which successful management depends.

The mode of presentation of MH varies, and the order of the various modalities of treatment may need to be modified accordingly. The steps below are intended as an "aide memoire".

Know where dantrolene is stored in your theatre.

DIAGNOSIS, CONSIDER MH IF:

1. masseter muscle spasm after suxamethonium
2. unexplained, unexpected tachycardia together with
3. unexplained, unexpected increase in end-tidal CO₂

EARLY MANAGEMENT

1. Withdraw all trigger agents (ie all anaesthetic vapours)
2. Install clean anaesthetic breathing system and hyperventilate
3. Abandon surgery if feasible
4. Give dantrolene IV. 1mg/kg initially and repeat PRN up to 10mg/kg.
5. Measure ABGs, K⁺ and CK
6. Measure core temperature
7. Surface cooling avoiding vasoconstriction.

INTERMEDIATE MANAGEMENT

1. Control serious arrhythmias with β blockers etc
2. Control hyperkalaemia and metabolic acidosis

LATER MANAGEMENT

1. Clotting screen to detect DIC
2. Take first voided urine sample for myoglobin estimation
3. Observe urine output for developing renal failure
4. Promote diuresis with fluids/mannitol. (20mg dantrolene contains 3g mannitol)
5. Repeat CK at 24hrs

LATE MANAGEMENT

1. Consider other diagnoses and do appropriate investigations eg VMA, thyroid function tests, WCC, CXR.
2. Consider possibility of myopathy, neurological opinion, EMG.
3. Consider possibility of recreational drug injection (ecstasy)
4. Consider possibility of neuroleptic malignant syndrome
5. Counsel patient and/or their family regarding implications of MH
6. Refer patient to MH Unit

The UK MH Investigation Unit, Academic Unit of Anaesthesia, Clinical Sciences Building, St James's University Hospital Trust, Leeds LS9 7TF 0113 243 3144 Direct line/Answerphone 0113 206 5274. Fax 0113 206 4140 Emergency 'Hotline' 07947 609601 is usually available outside office hours.

This poster is supported by the Association of Anaesthetists of Great Britain and Ireland and the British MH Association.