Dantrolene sodium

THERAPEUTIC CLASSIFICATION
Skeletal muscle relaxant

ALTERNATE NAME
Dantrium

INDICATIONS

- Management of malignant hyperthermia (MH)
- Neuroleptic malignant syndrome (unlabeled use)

AVAILABLE AS

Dantrolene 20 mg injection, lyophilized powder for reconstitution – each vial contains mannitol 3 g

ROUTES OF ADMINISTRATION and SRHC ADMINSTRATION POLICY

ROUTE	BY WHOM	HOW	WHERE
IV DIRECT	MD ONLY	Continuous rapid IV push through large-bore IV, if possible, after reconstitution with preservative-free sterile water for injection Maximum rate 1 mg/kg/minute MUST NOT come into contact with D5W or NS	All areas (where MH occurs)
INTERMITTENT IV (MINIBAG or BURETROL)	MD RN	Dose can be transferred to an empty sterile IV bag, evacuated bottle, or buretrol and infused over 60 minutes	All areas (where MH occurs)
CONTINUOUS IV INFUSION	RN	Not for initial treatment of MH crisis but for the 24 hour (at least) post acute phase – infused at 0.25 mg/kg/hour	ICU
REQUIREMENTS	For MH crisis dilute and infuse as quickly as possible		
MONITORING	$ETCO_2$, electrolytes, blood gases, CK, core temperature, urine output		

RECONSTITUTION, PREPARATION, AND STABILITY

Reconstitution: reconstitute each vial with 60 mL of sterile water for injection WITHOUT bacteriostatic agent and shake until solution is clear

Dilution: DO NOT further dilute

Stability: 6 hours at room temperature – PROTECT FROM LIGHT

COMPATIBILITY

IV SOLUTIONS: Compatible mixed in: NONE – will precipitate if mixed with D5W or NS

Y-site ADMINISTRATION: Compatible with: DO NOT MIX with other drugs

If a drug is not listed there may not have been any information – please contact Pharmacy Services or refer to the on-line IV compatibility information available through Lexi-comp for further information.

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DOSAGE

MANAGEMENT OF MALIGNANT HYPERTHERMIA
Treatment should begin as soon as MH is recognized

Adults and Children
Initial dose of 1 -3 mg/kg IV push and continuing until symptoms subside up to 10 mg/kg (some rare cases have required up to 30 mg/kg)

Preoperative prophylaxis
Infuse 2.5 mg/kg IV over 1 hour prior to surgery

Management of Neuromuscular Malignant Hyperthermia syndrome ((NMS)
1 – 2.5 mg/kg IV initially, followed by 1 mg/kg every 6 hours if rapid resolution of the fever and rigidity is observed, with tapering or switch to oral dantrolene after the first few days

ADVERSE EFFECTS

- Thrombophlebitis
- IV site reaction
- Choking, difficulty swallowing
- Urticaria (rare)
- Loss of grip strength, muscular weakness
- Lightheadedness
- Pulmonary edema

CONTRAINDICATIONS

None

WARNING AND PRECAUTIONS

- Use of dantrolene does not reduce need for other treatments for malignant hyperthermia
- Patients should be warned not to drive or operate machinery after receiving dantrolene

IMPORTANT NURSING IMPLICATIONS

- Do not dilute in IV fluids
- Avoid extravasation due to high pH of drug

References:

1. Product monograph Dantrium JHP Pharmaceuticals January 2009
2. Emergency Treatment for Malignant Hyperthermia Malignant Hyperthermia Association of the United States, May 2008
3. Strawn, Jeffrey R., Keck, Paul E., Jr., Caroff, Stanley N. Neuroleptic Malignant Syndrome Am J Psychiatry 2007 164: 870-876

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