

The North American Malignant Hyperthermia Registry

Report of Anesthesia in a

MH BIOPSY NEGATIVE PATIENT

(“MHN Report”)

INSTRUCTIONS

This form is to be filled out by an anesthesiologist or other health care provider.

1. Complete this form each time you anesthetize a patient who has had a **negative MH biopsy** (caffeine halothane contracture test).
2. The attending anesthesiologist should review the completed form.
3. If the patient has been registered previously in the NAMH Registry, please ask the patient for his Registry identification number and record it in the space provided.
4. A copy of this report may be given to the patient. Please send the **original** completed form to the NAMH Registry.
5. Return original completed form to:

The North American Malignant Hyperthermia Registry
University of Florida
Department of Anesthesiology
1600 SW Archer Road, PO Box 100254
Gainesville, FL 32610
1-888-274-7899

North American MH Registry Number *(for office use)*

MHN REPORT

Version 8.6 May 2014

PATIENT IDENTIFICATION

1. Any previous North American MH Registry numbers associated with the patient. That is, the Registry number of this patient on a Biopsy Report, AMRA, or RSR (formerly AKA) or the Registry number's of a close relative's reports, etc.
- a. _____ Comment _____
- b. _____ Comment _____
- c. _____ Comment _____

2. Patient's Initials

first middle last

3. Has consent been obtained to enter patient's name into the Registry?

check one

yes

no

If yes, please complete a-g on following page.

Note: DO NOT COMPLETE IF CONSENT HAS NOT BEEN OBTAINED

a. Patient's name

last first middle

b. Patient's previous name

last first middle

c. Patient's maiden name

last

d. Patient's Address

street address

city state/province zip/postal code

country

e. Phone number

(Home) (____) ____ - ____

(Work) (____) ____ - ____

f. Patient e-mail address _____

g. Date of patient's birth

____ \ ____ \ ____

year month day

DEMOGRAPHIC INFORMATION

4. Sex

check one

() male () female

5. Weight

____ . ____ kilograms OR ____ lbs

6. Height

____ . ____ cms OR ____ ft ____ inches

7. Year of patient's birth

8. Race:

check as many as apply

(data utilized for demographic purposes only)

- | | |
|--|---|
| <input type="checkbox"/> Caucasian | <input type="checkbox"/> African |
| <input type="checkbox"/> Hispanic | <input type="checkbox"/> East Asian |
| <input type="checkbox"/> African-American | <input type="checkbox"/> South Asian |
| <input type="checkbox"/> Native American | <input type="checkbox"/> Middle Eastern |
| <input type="checkbox"/> Hawaiian or Pacific Islander | |
| <input type="checkbox"/> other (<i>specify</i>): _____ | |

9. Body Build

check one

- | | |
|--|--------------------------------|
| <input type="checkbox"/> Normal | <input type="checkbox"/> Lean |
| <input type="checkbox"/> Muscular | <input type="checkbox"/> Obese |
| <input type="checkbox"/> Postpartum | |
| <input type="checkbox"/> Other (<i>specify</i>): _____ | |

10. State or province of the patient's residence

11. State or province of the facility in which anesthesia was given.

12. Reporting physician's name (*optional*)

13. Facility type:

- Hospital
- Ambulatory Surgical facility on hospital campus
- Free-standing ambulatory surgical facility
- Dental Office
- Surgical Office

13. Facility name (*optional*)

14. Anesthesia Department telephone number and/or email address (*optional*)

(____) - ____ - _____ @ _____

ANESTHETIC HISTORY

15. Patient's anesthetic history is positive for:
check all applicable
 clear-cut clinical MH episode(s)
 possible MH (not clear-cut MH)
 masseter muscle rigidity only
 positive calcium uptake test (performed in Boston)
 other (*specify*) _____
 none of the above
16. How many times was this patient anesthetized prior to this evaluation?
__ __ unknown but > 0 unknown
17. How many were general anesthetics?
__ __ unknown but > 0 unknown
18. Indicate the number of anesthetics with the following agents:
__ __ volatile agents without succinylcholine
__ __ volatile agents with succinylcholine
__ __ succinylcholine without other known triggering agents
19. Year of negative MH muscle biopsy (caffeine halothane contracture test) __ __ __ __
20. Center which performed MH Biopsy
check one
 Children's Hospital of Oklahoma
 Cleveland Clinic
 Hahnemann University
 Thomas Jefferson University
 Loyola University
 Northwestern University
 Mayo Clinic
 Ottawa Hospital Civic Campus
 Presbyterian University Hospital (Pittsburgh)
 Toronto General Hospital
 UC-Davis
 UCLA
 Uniformed Services University
 University of Calgary
 University of Florida
 University of Iowa

- University of Manitoba
- University of Massachusetts
- University of Minnesota
- University of Nebraska
- University of South Florida
- University of Texas-Houston
- University of Washington
- University of Wisconsin
- Wake Forest University
- other (*specify*): _____

ANESTHETIC MANAGEMENT

21. Year of anesthetic

— — — —

22. Type of procedure scheduled *check all applicable*

- cardiothoracic
- dental
- ear, nose, or throat
- eye
- general surgery
- laparoscopic surgery
 - abdominal
 - pelvic
 - other (*specify*) _____
- gynecology
- neurosurgery
- thoracoscopic surgery (thoracic)
- obstetrics
- oral surgery
- orthopedic
- plastic surgery
- radiology
- urology
- vascular
- transplant
- other (*specify*): _____

23. Was the procedure an emergency?

check one

- no
- yes

MONITORING UTILIZED

24. Monitoring utilized:

check all monitoring used

- | | |
|--|---|
| <input type="checkbox"/> blood pressure monitor | <input type="checkbox"/> end-tidal PCO ₂ |
| <input type="checkbox"/> electrocardiograph | <input type="checkbox"/> pulse oximeter |
| <input type="checkbox"/> stethoscope | <input type="checkbox"/> bladder (Foley) catheter |
| <input type="checkbox"/> arterial catheter | |
| <input type="checkbox"/> central venous catheter | |
| <input type="checkbox"/> pulmonary artery catheter | |

temperature probes:

- axillary
- bladder
- esophageal
- nasopharyngeal
- rectal
- skin-electronic
- skin-liquid crystal
- tympanic
- other (*specify*): _____

25. Type of anesthetic

check all applicable

- monitored anesthesia care (local with anesthesia stand-by)
- regional anesthesia
- spinal anesthesia
- epidural anesthesia
- general anesthesia with a face mask only
- general anesthesia **with** a laryngeal mask airway
- general anesthesia **with** endotracheal intubation
- general anesthesia **with** volatile agents (potent inhalation anesthetics)

26. Type of ventilation *check one*

- spontaneous
- assisted
- controlled

27. Pre-medication and anesthetic agents utilized:
check all applicable

- sodium citrated citric acid (Bicitra)
- cimetidine (Tagamet)
- famotidine (Pepcid)
- lansoprazole (Prevacid)
- ranitidine (Zantac)
- metoclopramide (Reglan)
- omeprazole (Prilosec)
- atropine
- glycopyrrolate (Robinul)
- scopolamine (Hyoscine)
- dolasetron (Anzemet)
- droperidol (Inapsine)
- hydroxyzine (Vistaril)
- ondansetron (Zofran)
- promethazine (Phenergan)
- diphenhydramine (Benedryl)
- clonidine
- dexmedetomidine
- ketorolac (Toradol)
- acetaminophen (Tylenol)
- diazepam (Valium)
- lorazepam (Ativan)
- midazolam (Versed)
- etomidate (Amidate)
- ketamine (Ketalar)
- propofol (Diprivan)
- alfentanil (Alfenta)
- fentanyl (Sublimaze)
- fentanyl (Sublimaze)
- fentanyl (Sublimaze)
- meperidine (Demerol)
- morphine
- remifentanyl (Ultiva)
- sevoflurane (Ultane)
- desflurane (Suprane)
- isoflurane (Forane)
- nitrous oxide
- nalbuphine (Nubain)
- naloxone (Narcan)
- atracurium (Tracrium)
- cis-atracurium (Nimbex)
- rocuronium
- vecuronium (Norcuron)
- pancuronium (Pavulon)
- other NMB
- IM succinylcholine (Anectine)
- IV succinylcholine (Anectine)
- NO succinylcholine
- edrophonium (Tensilon)
- neostigmine (Prostigmin)
- physostigmine (Antilirium)
- bupivacaine (Marcaine)
- levo-bupivacaine
- choroprocaine (Nesacaine)
- cocaine
- etidocaine (Duranest)
- lidocaine (Xylocaine)
- mepivacaine (Carbocaine)
- prilocaine (Citanest)
- procaine (Novocain)

- sufentanil (Sufenta) ropivacaine (Naropin)
 hydromorphone (Dilaudid) tetracaine (Pontocaine)
 unknown epinephrine
 neosynephrine
 NO potent volatile anesthetic
 other (*specify*): _____

28. Total duration of potent inhalation anesthetic administration: __ __. __ __ (*hours and minutes since induction*)

29. Was a barbiturate given prior to the potent inhalation anesthetic?
check one
 no
 yes
 n/a

30. Was a non-depolarizing neuromuscular blocker given during the potent inhalation anesthetic?
check one
 no
 yes
 n/a

31. Maximum observed perioperative temperature and end-tidal pCO₂ :
fill in the blanks
__ __ . __ maximum temperature noted (° C)
__ __ __ maximum end-tidal pCO₂ noted (mmHg)

32. Were any signs of MH noted during this anesthetic?
check one
 no
 yes

33. Abnormal signs felt to be inappropriate in the judgment of the attending anesthesiologist
NUMBER in order of appearance
(a number may be used more than once if signs noted simultaneously)
__ masseter spasm: mouth cannot be fully opened, but direct laryngoscopy possible
__ masseter spasm: jaw clamped shut, intubation via direct visualization impossible
__ generalized muscular rigidity
__ cola colored urine
__ tachypnea
__ hypercarbia

- ___ cyanosis
- ___ skin mottling
- ___ sinus tachycardia
- ___ ventricular tachycardia
- ___ ventricular fibrillation
- ___ elevated temperature
- ___ rapidly increasing temperature
- ___ sweating
- ___ excessive bleeding
- ___ hypertension > 20% of baseline
- ___ other (*specify*): _____

34. Laboratory Evaluation

fill in the blank, write unknown if results not known

most abnormal arterial blood gas after MH was suspected

___ ___ ___ FiO₂

___ ___ ___ pH

___ ___ ___ PCO₂ (mmHg) ___ ___ ___ liters/minute

___ ___ ___ PO₂ (mmHg) ventilation

___ ___ ___ BE (mEq/L) (*specify ±*) at the time of this

___ ___ ___ Bicarbonate (mEq/L) blood gas

___ ___ ___ Time (*after induction*)
(*hours and minutes since induction*)

peak lactic acid

___ ___ mmol/L

peak K⁺

___ ___ mEq/L or mmol/L

peak post-op creatine kinase*

___ ___ , ___ ___ U/L

*** recommended intervals for creatine kinase determination are 0, 6, 12, 24 hours after MH**

__ __ hours after induction **reaction suspected**

peak serum myoglobin*

__ __, __ __ __

ng/ml

__ __ hours after induction

peak urine myoglobin

__ __, __ __ __ mg/L

__ __ hours after induction

PT (prothrombin time)

__ __ seconds

INR

__ . __

PTT (partial thromboplastin time)

__ __ seconds

laboratory upper limit of normal

__ __ __ seconds

laboratory upper limit of normal

__ __ __ seconds

platelet count

__ __ __, __ __ __

fibrinogen

__ __ __ __ mg/dl

35. Treatment given for signs of MH
check all treatments utilized; fill in the blanks

() Hyperventilation with 100% oxygen

() Intraoperative or postoperative dantrolene given

__ __ __ Time required (*after anesthetic induction*)

(*hours and minutes since induction*)

__ __ __ Total dose given after induction (mg)

() Active cooling

Method (specify) _____

() Fluid loading

__ __ ml/kg

Fluid type (specify) _____

() Furosemide

() Mannitol

() Bicarbonate

() Glucose, insulin

() Bretylium

() Lidocaine

() Procainamide

() Defibrillation

() CPR

other

36. Did the patient survive?

check one

no

yes

37. Cause of death?

MH

Other (*specify*): _____

COMMENTS ON PATIENT

Optional
