Home in time for supper: Humanized Anti-GD2 antibody in the outpatient setting

Melanie Cohen, RN, BSN, CPHON and Katherine Alessi, RN, BSN, CPHON
Pediatric Ambulatory Care Center; New York, New York

Memorial Sloan Kettering Cancer Center

WeCARE Every day. Every way. ©2013, MSKCC

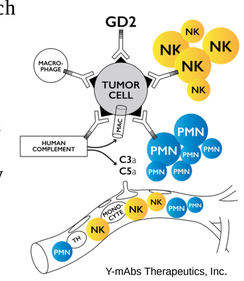
MAGNET RECOGNIZED AMERICAN NURSES CREDENTIALING CENTER

What is Naxitamab?

Naxitamab (hu3F8) is a humanized monoclonal antibody that adheres to GD2 on neuroblastoma cells. Naxitamab has shown stronger binding to GD2 than other known anti-GD2 antibodies.

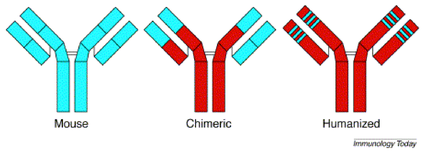
Potential advantages over murine antibodies such as mu3F8

1. Low immunogenicity allowing repeat treatments
2. Improved antibody-dependent cell-mediated cytotoxicity (ADCC) potency
3. Longer serum half-life reducing the necessity of daily infusions
4. Reduction of pain side effects, anaphylaxis and anaphylactoid reactions as well as immune complex disease



Phase II Study Design

Given in patients with high risk neuroblastoma. Each cycle is started with 5 days of GM-CSF (Sargramostim) administered at 250µg/m2/day in advance of the start of Naxitamab administration. GM-CSF is thereafter administered at 500µg/m2/day on days 1 through 5. As standard treatment, Naxitamab 3mg/kg/day is given on days 1,3, and 5 totalling 9mg/kg per cycle. Cycles are repeated every 2-4 weeks.



Medication Management

➤ Premedications

❖ GM-CSF (Sargramostim)
- Loratadine
- Acetaminophen
- Hydroxyzine
- Ondansetron
- Famotidine
- Oxycodone

➤ Supportive Medications
- IV Hydromorphone
- EpiPen®
- Diphenhydramine
- Levalbuterol
- Racemic Epinephrine
- Naloxone
- Normal Saline Bolus

Sample Schedule

Days 1,3,5: Monday/Wednesday/Friday*

0800: Room/emergency equipment set-up

0815: Patient arrives to clinic, parent/patient education, obtain vital signs, confirm/obtain IV access, draw labs

0900: Administer SQ GM-CSF (Sargramostim)500µg/m2/day

0915: Premedications (analgesic, antihistamines, antipyretic, etc.)

0930: Emergency medication preparation, history & physical by Nurse Practitioner

1015: Begin Naxitamab infusion over ~35min

1100: Post Naxitamab monitoring -pain, hyper/hypotension, tachycardia, fever, hives, nausea/vomiting, respiratory distress; vital signs q 1hr or as clinically indicated

1400: Discharge; instruction to patient/family

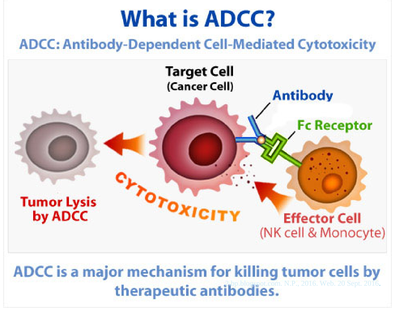
*example schedule

Side Effects

- Grade 1-2 Pain
- Tachycardia
- Hypotension
- Nausea
- Urticaria
- Fever
- Cough
- Wheezing/Stridor
- Hypertension
- Anaphylaxis
- Peripheral Neuropathy
- Posterior Reversible Encephalopathy Sydrome (PRES)

Discharge Criteria

-Minimum of one hour post hu3F8 treatment/IV intervention
-Oxygen saturations ≥95% on Room Air
-Blood pressure normotensive and ≤99th % per NIH guidelines
-Afebrile/vital signs stable
-Pain well controlled
-No acute allergic reaction
-Medication reconciliation
-Verbalized understanding of discharge instruction



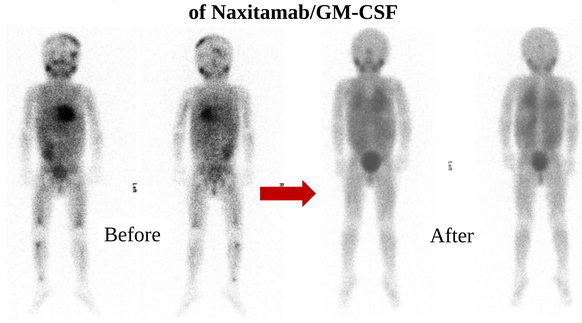
Standard Operating Procedures (SOPs)

A specific set of practices initiated and followed when particular circumstances arise

- ❖ Infusion
- ❖ Onset of pain
- ❖ Hypertension
- ❖ Hypotension
- ❖ Allergic reaction
- ❖ Significant reaction

Response by MIBG imaging

3 yr old girl (primary refractory) before and after 2 cycles of Naxitamab/GM-CSF



	mu3F8	Naxitamab	ch14.18 (Dinutuximab)
Dosage	Standard	2.5 x standard	standard
Schedule	M–Tue–W–Th–F	M–W–F	4 consecutive days
Hospital stay	Outpatient (30 min)	Outpatient (30 min)	inpatient or ICU (10–20 hr)
Cytokine	GMCSF	GMCSF	GMCSF + IL2
# patients treated	894^	160^	1021*
Toxicities			
Transverse myelitis	None	None	Occasional*
Capillary leak syndrome	None**	None**	23%*
PRES (RPLS)	0.6% (HBP related)	2% (HBP related)	Rare*
HUS, severe sensory and motor neuropathy	None	None	Rare*
Neurologic disorders of eye; myelosuppression	Rare	Rare	Common*
Death	None	None	Rare*

* Based on FDA Boxed Warning Label
** Occasional patients receiving mu3F8+IL2 had symptoms and signs consistent with capillary leak syndrome
^ January 2017 census, MSKCC

Multicenter Study Expansion:
Clinicaltrials.gov NCT03363373