

Hemangioma Treatment

Propranolol

Dosing

Preferred Dosing

- 1 mg/kg/d divided BID for 1 week
- 1.5 mg/kg/d divided BID for 1 week
- 2 mg/kg/d divided BID keep at this dose

Common Alternate dosing

- 1 mg/kg/d divided TID for 1 week
- 1.5 mg/kg/d divided TID for 1 week
- 2 mg/kg/d divided TID keep at this dose

French RCT Dosing

- 1 mg/kg/d divided BID for 1 week
- 2 mg/kg/d divided BID for 1 week
- 3 mg/kg/d divided BID

Other Considerations

- Try for 6 hours between doses
- Hold if child can't take PO
- Child should not skip meals
- Typically use for minimum 6 months, 12 months have less recurrences
- When lesion treated, tapering is common to ensure no recurrence of the lesion
- Monitor Blood pressure and pulse 1 and 2 hours after any dose increase of >0.5 mg/kg/day

Pre-Treatment issues

- Blood Pressure & Pulse screening: [Normal Infant Vital Signs](#)
- Inappropriate Bradycardia
 - Newborns (<1 month old) <70 BPM

- Infants (1-12 months old) <80 BPM
- Children (>12 months old) <70 PBM
- Inappropriate Systolic Blood Pressure (< 5th percentile for oscillometric or <2 SD below mean for auscultation)
 - Newborn: <57 mm Hg (oscillometric) or 64 mm Hg (auscultation)
 - 6 months: < 85 mm Hg (oscillometric) or 65 mm Hg (auscultation)
 - 1 year: <88 mm Hg (oscillometric) or 66 mm Hg (auscultation)
- Rule out PHACES Syndrome: MRI/MRA Head and Neck, Echocardiogram
- Cardiology consult if considering Propranolol in PHACES

Screening for risks:

- Cardiovascular and pulmonary history red flags
 - History of: Poor feeding, dyspnea, tachypnea, diaphoresis, wheezing, heart murmur, family history of heart block or arrhythmia would preclude outpatient treatment
- Exam needed: Heart Rate, Blood Pressure, Cardiac and Pulmonary assessment
 - ECG if determined needed by above especially if:
 - Newborns < 1 month old and pulse is < 70 BPM
 - Infants 1-12 months old and pulse is < 80 BPM
 - Children > 12 months and pulse is < 70 BPM
 - Family history of congenital heart conditions or arrhythmias or maternal history of connective tissue disease
 - Echocardiogram- not needed routinely
- PHACE syndrome (large segmental hemangioma of head neck, arterial anomalies of head and neck, congenital anomalies of brain, eyes and/or chest wall)- risk of ischemic stroke, needs to be managed by cardiology with neurology input
 - if PHACE is suspected: MRI/ MRA of head and neck and Echocardiogram
 - Slow titration up, lowest effective dosing, inpatient observation and TID dosing

Protocol

[See Outpatient Treatment of hemangioma with Propranolol Protocol](#)

Treatment Location

- Inpatient for <8 weeks old or any age with inadequate social support or co-morbid conditions affecting the cardiovascular or respiratory system
- Outpatient for > 8 weeks old with good social support and no co-morbid conditions

Adverse Effects

- Hypoglycemia- child should eat every 4 hours

- Hypotension- check blood pressure after dose change
- Bradycardia- check pulse after dose change
- [Infant Vital Signs](#)

Parents to call if...

- Lethargy
- Cool Clammy skin
- Breathing Difficulties

Intralesional Steroids

- Triamcinolone 40mg/ml
- Betamethasone 6mg/ml

Other Treatments

- Surgical Excision

References

- See [Protocol for Outpatient Propranolol for Infantile and Childhood Hemangioma](#)
- A Randomized, Controlled Trial of Oral Propranolol in Infantile Hemangioma 2015 [PDF](#)
- Initiation and Use of Propranolol for Infantile Hemangioma: Report of a Consensus Conference 2013 [Journal of Pediatrics](#)

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