**Current Treatment for Infantile Hemangiomas: Selection Criteria, Safety and Outcomes Using Oral Propranolol**

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**Abstract**

**Background:** Despite the increasing popularity of treatment for infantile hemangioma (IH) with propranolol, there is need for further evidence, especially regarding safety. The aim of this study is to report a retrospective review of one institution’s experience treating IH with propranolol.

**Methods:** Patients with IH presenting to the Children’s Hospital Vascular Anomalies Center between 2009-11 were evaluated for potential treatment with propranolol. Exclusion criteria included history of hypoglycemia, respiratory disorders, hypotension, and arrhythmia. Propranolol, 2 mg/kg/day, was initiated during a 48 hour inpatient observation. Data collected included weight and serial photography, and complications. Improvement in color, size and overall appearance were assessed by Visual Analog Cosmetic Scale (VACS), assigned by 2 reviewers: “Abhorrent”, 0-24; “Poor”, 25-49; “Moderate”, 50-74; and “Excellent”, 75-100.

**Results:** 23 patients were treated with propranolol (8 male, 15 female). Therapy was initiated at 6 months of age or younger with the exception of one patient (average 14.9 weeks, range 3-40). 22 lesions were on the head and neck, and one was on the trunk. Average treatment duration was 36.8 weeks (range 24-60). Treatment was ongoing in 10 patients (43.5%), of whom 4 were currently undergoing wean, 3 had completed wean, and 2 had experienced rebound growth and treatment was reinitiated. 4 patients were lost to follow-up. Post-treatment appearance improved significantly: color, 50.9 vs 80.5 (p<0.05); size, 44.8 vs 80.6 (p<0.05), and overall 45.4 vs 83.7 (p<0.05). There was no significant difference between first (40th percentile) compared to most recent weight (33rd percentile), p=0.521.

2 patients experienced hypoglycemia (8.7%), one during a diarrheal illness, and one during inpatient initiation of therapy.

**Conclusion:** We present a series of patients safely treated for IH with 2mg/kg/day propranolol. Using a strict protocol, very few complications were observed. Patients achieved significant reduction in size and improvement of the overall appearance of IH.

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