



## Service Priorities and Programmes Electronic Presentations

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### **Propranolol for Infantile Haemangioma – a single centre experience and proposed new management protocol to reduce hospital stay and investigation procedures**

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#### **Introduction**

Infantile haemangiomas (IHs) are benign tumors of vascular endothelium and are the most common vascular tumors of childhood. In the past, the conventional treatment of complicated IHs included systemic corticosteroid,  $\alpha$ -interferon and vincristine, which associated with significant side effects. In 2008, the first report of the successful use of propranolol pioneered a change in the management of complicated IHs. There were many overseas studies showing propranolol to be effective with little side effects. However, the reported experiences of propranolol treatment in Chinese children with IHs were limited. Therefore, we would like to conduct a study to evaluate the effectiveness and side effects of using systemic propranolol to treat IHs in a regional hospital for Chinese children.

#### **Objectives**

To assess the outcome of systemic propranolol treatment for infantile haemangioma in Chinese children in a regional hospital

#### **Methodology**

Retrospective review of patients from Department of Paediatrics in a regional hospital in the period of January 2009 to December 2014, aged less than 18 years old, diagnosed with infantile haemangiomas for which propranolol was commenced and completed within the study period, and with no other systemic drug used at the start of treatment.

#### **Result**

Forty-eight patients were identified, 39 were included. There were 30 girls and 9 boys. Median age of starting propranolol and median age of stopping treatment was 4 and 15 months respectively with median duration of 11 months. Thirty-seven patients (94.9%) responded to propranolol treatment with 19 (48.7%) showing good response and 18 (46.2%) showing partial response respectively, while two patients (5.1%) had poor response. Five patients (12.8%) rebounded after propranolol was stopped but

responded again when the drug was reintroduced. Side effects of propranolol occurred in five patients (12.8%), four of them (10.3%) had asymptomatic hypotension, one (2.6%) had bronchospasm. Baseline investigations included blood pressure, heart rate, complete blood count, thyroid function tests, clotting profile, ECG, echocardiogram, ultrasound of liver and infant brain, and imaging of specific sites related to IHs. Current management protocol required initiation of propranolol in hospital and stayed 3 days to observe the side effects. All except three patients had normal pre-treatment investigations. One patient had low platelet count due to concomitant idiopathic thrombocytopenic purpura. Two patients were found to have coexisting liver haemangiomas and one of them was complicated by high output heart failure. No patient experienced side effects during initiation of propranolol.

**Conclusion** Propranolol is a safe and effective treatment for infantile haemangiomas. Significant side effects were not reported from our study. Minimal patients had abnormal pre-treatment investigation results. We suggest a simplified protocol to initiate propranolol treatment in day ward with blood pressure and heart rate monitoring. Investigations are indicated in selected group of patients only. By reducing unnecessary investigations and hospital stay, the medical burden as well as patients' time spent can be decreased.