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Short Communication

Low dose oral propranolol in cutaneous infantile hemangioma- An experience of fifty cases

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Abstract: Cutaneous infantile haemangiomas affect approximately 1 in 10 children. They tend to follow a natural course of rapid proliferation during the first year of life and subsequently regress over 5-10 years. Most haemangiomas are non-problematic, but a few become problematic, through ocular, airway or functional impairment, or ulceration. Until recently, treatment options for problematic haemangioma have included intralesional and systemic steroids, chemotherapeutic agents including vincristine and interferon-alpha, laser therapy or surgical intervention. Oral propranolol therapy has been observed to inhibit the proliferation and incite regression of these lesions during their proliferative phase.
Keywords: haemangiomas, steroids, propranolol therapy

INTRODUCTION

Cutaneous infantile haemangiomas affect approximately 1 in 10 children. They tend to follow a natural course of rapid proliferation during the first year of life and subsequently regress over 5-10 years. Most haemangiomas are non-problematic, but a few become problematic, through ocular, airway or functional impairment, or ulceration.

Until recently, treatment options for problematic haemangioma have included intralesional and systemic steroids, chemotherapeutic agents including vincristine and interferon-alpha, laser therapy or surgical intervention. Oral propranolol therapy has been observed to inhibit the proliferation and incite regression of these lesions during their proliferative phase

At present there are no nationally agreed guidelines on Propanolol use in pediatric patients with infantile haemangioma. We follow a similar pre screening and dose initiation regimen to that of other Pediatric hospitals. We hope for that regional and national guidelines can be developed for this purpose

MATERIAL & METHOD

A retrospective study of fifty cases of cutaneous infantile haemangiomas at SPMCHI, SMS Medical College, Jaipur, during the period from July 2013 to June 2015. Infant/child age at start of treatment ranged from 6 weeks to 24 months

Full clinical examination done for every child including cardiovascular and respiratory assessment, full blood picture, urea & electrolytes, blood glucose, Dipstick urine test for glucose, Electrocardiogram and echocardiogram, Abdominal Ultrasound (in patients with multiple lesions) along with Medical Photography.

A low dosing regimen of oral Propanolol at dose of 1 mg/kg/day is commenced initially in three divided doses, which is increased to 2mg/kg/day at one week if this is well tolerated. The drug was given with feed or the infant was fed immediately after the dose administration to prevent drug induced hypoglycemia and was advised to withhold treatment if the child is vomiting or generally unwell.

RESULTS

Overall, 46 infants had improvement in their lesions with oral Propanolol. 46/50 (92%) of patients were commenced on the standard dosing regimen of 1mg/kg/day in divided doses. 46/50 of these infants tolerated treatment well and had their dose titrated to 2mg/kg/day. Out of the remaining four infants, two infants did not tolerate the initial dose and had

bradycardia so the dose was reduced and then titrated without further problems. Another two infants with dose of 2mg/kg/day had side effects like lethargy in one and disturbed sleep in one. These two infants had their dose reduced with improved effect.

Fig 1: Near complete regression of Facial Haemangioma after Oral Propanolol treatment given for 6 months

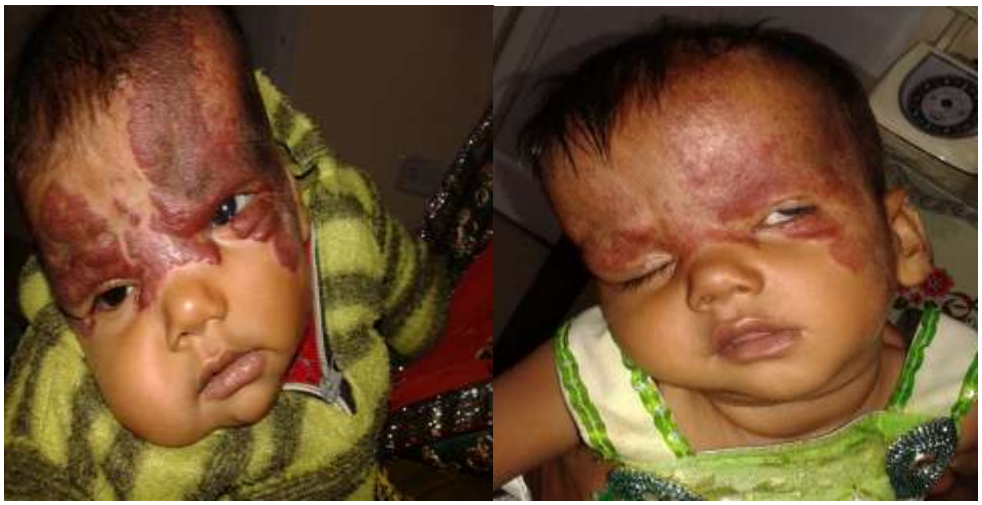

Fig 2: Appreciable regression of extensive Facial Haemangioma using oral Propanolol within 6 month of treatment

DISCUSSION

Propranolol has been used for decades in the practice of pediatrics for the treatment of cardiovascular disease at a dose as high as 8mg/kg/day [1, 2]. Results from our case series indicate that propranolol at a dose of 2mg/kg/day is effective in promoting regression and reducing morbidity from problematic cutaneous infantile haemangiomas [3-5].

The children who did not gain benefit from propranolol in our series were those who commenced treatment at an older age. This illustrates the importance of primary care education to ensure children are identified and treated promptly, ideally within the first six months of life. Research is ongoing in this field, looking at efficacy, safety profile and most appropriate dosing regimen for propranolol, in the treatment of complicated infantile haemangioma. At present in our country, the use of propranolol for cutaneous haemangiomas is reserved for those which are problematic, and all children are managed at a regional centre under the care and close supervision of a specialist team [5, 6]. Results so far have been promising. In the future its use may be rolled out for non problematic lesions with the aim of reducing the volume of redundant skin when these lesions regress naturally, impacting on cosmetic outcome. Another option maybe the application of topical propranolol to superficial haemangiomas, and a recent paper has reported this novel approach safe and effective [7].

CONCLUSION

Oral Propanolol is a safe, effective, and easy to administered and free of major side effect if watched carefully for pre existing diseases (if any) by prior screening in treatment for infantile haemangioma and we hope, in due course that regional and national guidelines can be developed for this purpose

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