

To Study the Effect and Outcome of Combined Oral Propranolol and Topical Clobesterol Therapy in Paediatric Haemangioma Patients.

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Introduction

Infantile Hemangiomas are the most common vascular tumors occurring in children, occurring in around 5%-10% of infants, especially girls. Although most are small cutaneous hemangiomas but they can also be large, disfiguring lesions with serious complications. Hemangiomas might also involve the orbit, airway or visceral organs such as liver, brain, intestinal tracts or lungs. They generally become evident within first days to months of life and are characterized by an initial phase of rapid endothelial cell proliferation during the first year of life.

Early intervention is indicated in a number of circumstances as visual field obstruction, respiratory obstruction, congestive heart failure, severe haemorrhage and severe disfigurement.

Corticosteroids are considered to be the first line of treatment but recently beta-blockers like propranolol are found to be effective. Propranolol acts by following mechanisms:

- 1) In Early Phase: vasoconstriction
- 2) In Intermediate Phase: inhibition of new angiogenesis
- 3) In Late Phase: induction of apoptosis

Whereas corticosteroids act via anti-inflammatory mechanism. So it was thought that we could achieve optimal response by combining both these drugs. To study the effect of the combined approach we conducted a study on OPD Basis in Pediatric Surgery OP, GSVM Medical College, Kanpur. We studied the effect of oral propranolol and topical application of cholesterol.

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Aims

To study the effect and outcome of Combined Therapy of Oral Propranolol and Topical Clobesterol on the patients of Hemangioma on OPD Basis.

Objective

To establish the superiority of combined therapy over individual drug regimen on the outcome of management of hemangioma.

Material and Methods

Oral Propranolol 2mg/kg/day once daily for 2 weeks followed by alternate intake for 2 weeks along with topical application of Clobesterol (Tenovat) once daily.

We followed 93 subjects on OPD basis, these patients were given a therapy for one year and were followed regularly regarding the course of disease in meantime with following investigations:

- 1) Clinical History and Examination.
- 2) Cardiac Evaluation: Pulse monitoring, Blood pressure measurement, Baseline ECG (subjects with a normal baseline ECG were chosen for the study), ECHO.
- 3) FNAC.
- 4) USG.
- 5) Routine Ocular Examination to rule out any adverse effect of topical steroid therapy on visual acuity, intraocular pressure, formation of cataract.
- 6) Routine blood glucose measurement to rule out hypoglycaemia which is a common adverse effect of oral propranolol intake.
- 7) Hormonal Assessment of patient to detect adrenal suppression, hypothyroidism etc.

Result

We followed these patients for a period of one year and

found that there was no withdrawal seen in the patients taking oral propranolol and topical clobesterol simultaneously. Out of these 93 patients, we had 2 patients who presented to us with a recurrence of the disease after six months of completion of one year combined therapy. These patients were further administered the same treatment for a period of 6 months which resulted in resolution of the hemangioma.

Conclusion

The combined regimen of oral propranolol and topical clobesterol is far better in terms of resolution of hemangioma as compared to individual therapy.

The administration of oral propranolol led to marked regression of size of hemangioma which had a significant role in treating patients with large hemangioma thus saving the morbidity associated with large hemangioma viz physical deformity and morbidity due to surgical management.

Combined therapy ensured early weaning from steroids thus saving the patients from the long term adverse effects of corticosteroid administration as altered growth, personality changes, Cushingoid changes, hypertension, diabetes, osteoporosis, pigmentary changes, etc.

Propranolol is well tolerated in infants; hypoglycemia is a well documented side effect which could be easily monitored by blood glucose levels.

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