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Case Report: A Rare Case of Infantile Hemangioma, Treated in a Private Clinic as Out Patient

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Abstract

One of the common childhood vascular tumors are Hemangioma which occurs in few population. It regresses spontaneously and treatment is not necessary until proliferation interferes with normal function of the child. The outcome of the risk is seen as disfigurement of face which can be treated. Treatment like laser therapy, drug therapy and surgery are the options for the hemangioma. The current case study attempt to treat a infantile hemangiona in its best available treatment.

Keywords: Hemangioma; Surgery; Treatment

Introduction

A hemangioma is a type of benign tumor in children. This is present under the skin as abnormal cluster of small blood vessels. It is also called as infantile hemangioma and it not clinically important [1]. In rare cases the cutaneous haemangioma can cause permanent disfigurement of face [2]. To treat the disfigurement of the skin and other psychological cause it will be better to have active treatment. The etiology of hemangioma remains unknown. Infant child birth and hypertension during pregnancy might lead to the formation of hemangioma [3].

Hemangioma is categorized by rapid proliferation of endothelial cells. It also occurs in three phase namely rapid proliferating phase, involuting phase and involuted phase which may last for many years [4]. General practitioners and paediatricians rarely treat infantile haemangioma and mostly these are treated by otolaryngologists and dermatologists. The various treatments currently involves for hemangioma are using drugs, laser and surgery [5]. The treatment modalities of hemangioma depend on sites where it exists, extent of disease and appearance of the lesion phase [6]. Proper standardised treatment is necessary to all the patients with proper multidisciplinary setting is required.

Case Presentation

A 5-year-old girl baby presented with her mother at the outpatient clinic for a routine clinical examination. On examination it was noted that there was an irregular red colored facial lesion present on the left side of the face clox to the eye, between the bridge of the nose. On checking with the parent of the girl baby it was confirmed this lesion was not available during birth. Initially few red dots were noticed in the face at 2 months of age which gradually increased to this present size. The child was otherwise growing well and had no other complications.

This child was their first child born to the parent at term by the caesarean section. The child developed respiratory distress few months after birth which needed hospitalization in the NICU for 3 days and treatment with IV fluids and antibiotics. The discharge diagnosis was TTN (Transient Tachypnoea of Newborn) and finally discharged well without any further complications.

The child grew normally over the next 4 months and was in a neighbouring state. On further examination by scan, it was noticed that infant seemed pink active with a small weight gain of about 3 kg (presently was 6 kg); and was on an exclusive breast feeds. The milestones-motor (headcontrol, rolling over) and mental (cooing, good social interaction) were appropriate for age. The facial lesion measured about 3 cm in diameter (lengthwise) and had an irregular shape (like a spider) extending into the eye upwards and alongside the left side of the nose. No other lesions were noted anywhere else in the body (Figure 1).

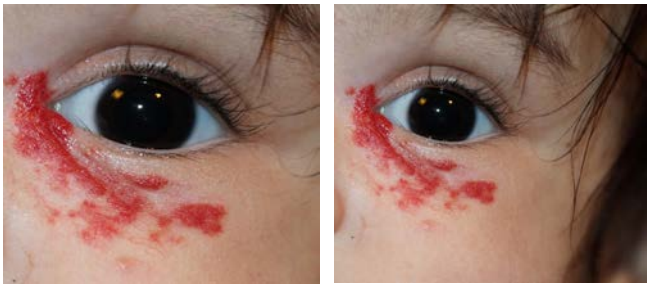

Figure 1: Child picture prior to treatment.

Examination and Treatment

The ultrasound of the abdomen revealed an encapsulated hemangioma 3 × 2 cm present in the left lobe of the liver. Eye examination by a pediatrician ophthalmologist revealed that though the hemangioma looked like it was extending into the eye, it actually stopped close to the lower punctum and caruncle. There was no spread into the conjunctiva and cornea. The baby could follow light and react to facial expression. The pupillary reflex was good. The baby was advised by the ophthalmologist to be started on local application of Timolol Maleate 1% drops/gel daily for a period of 2 months. No further treatment advised and it was decided to wait for the response of the Timolol (Figure 2).

Outcome and Follow-up

After 2 months of treatment and follow up, the facial hemangioma

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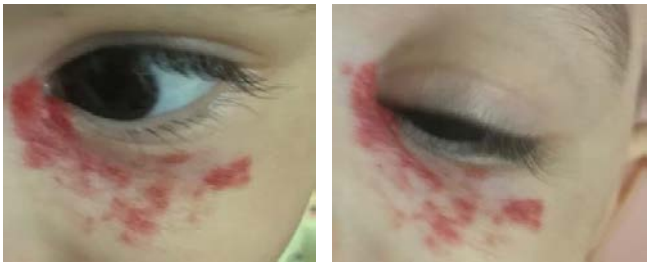

Figure 2: Child picture after two weeks of treatment.

had significantly decreased. No side effects of Timolol were noted in the child. The child has gained about kilogram of weight from the previous visit was able to site without support. The baby looked well and was asked to continue the local application of Timolol for one more month. The liver hemangioma was supposed to be followed up after a year with a repeat ultrasound.

Discussion

Hemangiomas are the most common benign soft tissue tumor of infancy and childhood usually born to mothers of higher maternal age occurring in 12% of infants and are found in greater frequency in girls, premature infants, twins [7]. They arise mainly in the head and neck area, trunk and the extremities. They are classified as infantile and congenital hemangiomas [8,9].

As an area of discoloration in the skin, infantile hemangiomas occur during the first 8 weeks of life. The lesion exhibits a rapid proliferative phase during early childhood growing into a raised bright-red tumor. This is followed by gradual involution and a spontaneous regression. Most of all hemangiomas will completely involute by the age of 5 years. Few involuted lesions may either show scaring, wrinkling, telangiectasia or loose fibro-fatty tissue [10]. Infantile Hemangiomas can be grouped into focal, segmental and indeterminate or depending on the depth of the lesion from the skin surface as superficial, deep and mixed. Focal Infantile Hemangiomas are the most common variant, appearing as localized raised tumor-like lesion that tends to occur at the area of embryological fusion. Segmental Infantile Hemangiomas are flat plaque-like larger lesions that show a geographic segmental distribution and Indeterminate Infantile Hemangiomas shows characteristics of both focal and segmental Infantile Hemangiomas. Colour varies with the depth of the lesion; they can be bright red (superficial), purple, blue or normal skin colour (deep) [11].

Congenital Hemangiomas are clinically present as fully developed lesions at birth and either rapidly involutes during the first year of life or may never show involution. After growth these lesions don't grow as they don't exhibit proliferative phase. Rapidly Involuting Congenital Hemangiomas are present at birth, either as red-purple color plaques with coarse telangiectasia or as flat violaceous lesions or as a raised greyish tumor surrounded by a pale halo with multiple tiny telangiectasia [12].

Benign vascular tumors were classified according to the type of fluid they contained as hemangioma (blood-containing lesion) and lymphangioma (lymph-containing lesion) and according to the size of the vascular channels as capillary (small diameter vascular channels) and cavernous (large diameter vascular channels) [13]. Researchers described a biological classification based on endothelial cell characteristics, physical findings and natural history, that differentiates vascular lesions with endothelial cell proliferation (example hemangioma) from lesions with structural anomalies (vascular malformations) [3].

The majority of infantile hemangiomas do not require any medical or surgical intervention. Historically, medical care of clinically significant hemangiomas had been limited to a few medications, including gluco-corticosteroids (topical, intralesional and oral), interferon alfa and, rarely, vincristine and topical imiquimod. Beta-blockers, most specifically propranolol, have been shown to induce involution of infantile hemangiomas and are now considered first-line treatment for problematic infantile hemangiomas [14].

The commonly used mediations for treating hemangiomas are Beta-blockers. Propranolol is the only medication used widely for treating hemangiomas in infants who are 5 weeks of age or older. Over a period of six months this medication is given. Timolol which is available in topical form, applied for skin superficially is also given for the treatment. Both of these medications can be extremely effective in stopping hemangioma growth, reducing hemangioma thickness and bulk and preventing complications [15].

For treating both proliferating and residual vessels from hemangiomas laser surgery is seems to be more beneficial when compared to other mode of treatment. The flashlamp-pumped pulsed-dye laser has become the most widely used laser for selective ablation of vascular tissue in childhood [16].

Surgical excision of involuted hemangiomas is not uncommon because of the cutaneous defects resulting from them. Atrophic and hypertrophic scars, as well as anetodermic and tumoral fibrofatty skin, may result in significant cosmetic or functional impairment. It was noted during late involution, excision might help to reduced the risk of hemorrhage. In addition, because involuted hemangiomas are composed primarily of fibrofatty tissue, complete removal of all tissue is unnecessary, while removing too much tissue could detract from proper contours [17].

There are also various forms of cortisone available for the treatment of hemangiomas. Al these drugs are available as tablets, which can be taken orally, also as injectables and topical application thus the drug can be made available in the surface of the hemangioma. If propranolol is not tolerated these drugs are used. They are most effective when given in the first six months of life [18].

Approximately 5%-10% of the population is affected by infantile haemangioma [19]. No treatment is required for most of the infantile haemangioma which are benign and solitary. It is noted that after 2-4 weeks of birth infantile haemangioma appears [20]. The majority are found on the head and neck. It grows rapidly during the proliferation phase and then relapses during the involution phase [21]. The bright red colour fades and it flattens once the haemangioma involutes. Scarring, atrophy and continued discoloration are seen in common compared to the normal skin. Large lesions in skin often lead to ulceration [22].

In 20% of infants multiple haemangiomas occurs along with infantile haemangioma. The location and size of the hemangioma along with other complications in infants can lead to permanent disfigurement. Complication occurs in organ level for visceral haemangiomas which includes heart failure, respiratory distress and CNS sequelae [23]. These types of hemangioma are treated to reduce morbidity and prevent or minimise complications.

Propranolol was studied in the year 2008 for its effect on infantile haemangioma. The discovery was accidental when a child with obstructive hypertrophic myocardiopathy being treated with

propranolol demonstrated regression of a facial haemangioma [23,24]. Thus propranolol was proposed as an initial primary treatment for haemangiomas.

Surgical treatment for haemangioma is not available in common in various places in India. Although exact mechanism is not known for propranolol, it is commonly available and safe to use. It is hypothesised that propranolol works by vasoconstriction and decreased expression of endothelial growth factor. Thus better treatment should be available for the treatment of haemangioma with possible known mechanism.

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