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Giant Infantile Hemangioma of Neck Managed by Oral Corticosteroids: A Case Report with Review of Literature

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Abstract:
Introduction:*Infantile hemangiomas are the most common vascular tumours in children. They may lead to ulceration, bleeding, pain, infection, difficulty feeding, and residual scarring.*
Case report: *A 9 months old female child was brought with a large swelling in the right neck. There were areas of ulceration and erythemas of the skin overlying the swelling. Magnetic resonance angiogram showed cavernous hemangioma with multiple feeding vessels precluding embolization. The patient was started on oral prednisolone which resulted in involution of the hemangiomasignificantly.*
Conclusion: *Conservative treatment with oral steroids in pediatric population is a safe and effective way of managing giant infantile hemangiomas.*
Keywords: *Giant infantile hemangioma; conservative management; pediatric population; oral prednisolone.*

I. Introduction:

Infantile hemangiomas are the most common vascular tumours in children, occurring in 5% to 10% of infants[1]. The most common complication is ulceration resulting in bleeding, pain, infection, difficulty feeding, and residual scarring[2].Hemangiomas can cause airway obstruction and visual disturbance depending on their location[3].Presenting here is a large infantile hemangioma of the neck in a 9 months old female child managed successfully without any complications.

II. Case report:

A 9 months old female child presented to Surgery department NEIGRIHMS with complaints of a large area of discolouration over the face a few weeks after birth without functional impairment. Patient's growth and development was not affected and the milestones were achieved as per the expected timings. On examination, the swelling was 15x10cms in size, soft in consistency with erythema and necrosis at places (Fig.1).

Figure 1 showing the giant hemangioma in right neck with areas of ulceration and erythemas

Magnetic resonance angiogram showed cavernous hemangioma like features withmultiple feeding vessels precluding embolization. The patient was started on a 3mg/kg body weight dose of oral prednisolone which was tapered over

the next 6 months. The size of discolouration at18 months of age was reduced to 4 cm diameter (Fig.2). The child is currently under follow up on outpatient basis.

Figure 2 showing the involutinghemangioma

III. Discussion:

Hemangiomas are the most common benign tumor in infancy. Their prevalence has been estimated as 2%-3% in the neonates, 10% under age 1 year and up to 22%-30% in preterm babies weighing less than 1000 g[4].Hemangioma can be found in all regions of the body, but they occur most commonly in the head and neck region (60%), followed by the trunk (25%) and then the extremities (15%)[4].They are more frequent in girls than boys, ranging from a 3:1 to 5:1 ratio[4]. Various risk factors include female gender, prematurity, low birth weight, multiple pregnancies, advanced maternal age and in vitro fertilization[1].

Hemangioma is characterized by endothelial cell proliferation and the natural course can be divided into: rapid proliferating phase (0-1 yr), involuting phase (1-5 yr) and the involuted phase (5-10 yr)[5]. The onset of involution is usually heralded by a change in color from bright red to dull purple, and finally in spotted pigment.[4]

In most instances, hemangiomas can be diagnosed based on history and physical examination. Colordoppler ultrasonography and/or MRI (Magnetic resonance imaging) may be used to aid in the diagnosis[6].Infants with large segmental hemangiomas on the face have increased propensity for other associated anomalies like PHACES syndrome, SACRAL and PELVIS syndrome[7].

Medical management of infantile hemangiomas includes local, topical and oral medications like propranolol, corticosteroids, alpha-interferon, anti-cancer drugs,imiquimod etc[4].

Systemic steroids and propranolol are time tested medical therapies for infantile hemangiomas. Before initiating propranolol therapy, the children need to be assessed for bronchial asthma, heart failure, sinus bradycardia, hypoglycaemia, hypotension, heart block and allergy to propranolol. The initial examination should include a thorough cardiopulmonary assessment including pulse rate, blood pressure and blood sugar. The pre-treatment workup before starting steroid therapy include ruling out active infection or primary immunodeficiency disease, (complete blood count with differential leucocyte count, serum biochemistry, chest xray and urine and stool microscopy), and a baseline anthropometric examination (height, weight) and blood pressure, which should be monitored serially[7].

Prednisolone is the first-line treatment for severe, multiple hemangiomas, potentially disfiguring hemangiomas or hemangiomas involving vital structures as well as for patients with congestive heart failure, consumptive coagulopathies, and thrombocytopenia prior to discovery of propranolol[4]. The mechanism of action of steroids is not entirely clear, though it is postulated to have an inhibitory effect on the production of vascular endothelial growth factor A (VEGFA) by stem cells in haemangiomas. Steroids are most effective in the early proliferative phase. The usual recommended dose is 2-4 mg/kg/day[7].Side effects of systemic corticosteroids therapy are Cushingoid face, disturbance of growth, susceptibility to serious infections, appetite changes, behavior changes, polyuria, pilosity, thrush and gastrointestinal discomfort. Oral steroids at a dose of 2-3 mg/kg/day result in 75% response, >3 mg/kg/day show 94% response but with greater side effects while a lesser dose of <2 mg/kg/day results in poor response and a rebound phenomenon in 70% of the cases[7].The patient presented here responded quite well to a dosage of 3 mg/kg/day without any complications.

The choice of treatment of hemangiomas is dependent on the various stages of growth and should be considered cautiously and with consultation of the child's parents[8].

IV. Conclusion:

Infantile hemangiomas (IH) are the most common benign vascular tumours. They are a cause of parenteral discomfort and anxiety. Oral corticosteroid is a safe and effective treatment modality in pediatric population without significant complications.

Conflicts of interest: None to declare.

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