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MANAGEMENT OF CAVERNOUS HAEMANGIOMAS

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SUMMARY

The management of cavernous haemangiomas in 100 cases has been discussed with the main emphasis on indications and results of surgery. Other modalities like injection of boiling water, oral steroids and compression therapy are discussed. By and large surgical treatment gave most satisfactory results in the selected cases.

Key Words : Haemangioma.

Haemangiomas are either present at birth or appear shortly thereafter. (Mark, 1977) They are evenly distributed between boys and girls. Though these lesions generally do not achieve large size, their natural history is unpredictable. In a few children they become large, grow rapidly, can produce serious complications like hemorrhage, infection and ulceration and unsighty deformities. Usually there is rapid growth during first two years of life and then it may be followed by slow regression (Bowers 1960, Lister 1938, Margileth 1965, Wallerstein 1965).

Haemangioma is a developmental malformation of blood vessels rather than a true tumour. It may occur in any tissue of the body but is most common in skin and subcutaneous tissues. In present study we have selected 100 cases of haemangiomas for our study. All selected cases were cavernous lesions at different sites and an attempt has been made to plan out treatment schedule for such cases. Some cases showed more than one lesion but they were counted as one case.

Marerial and Methods

One hundred cases of cavernous haemangiomas which were treated in Wanless Hospital, Miraj during June 1978 to April 1983, were taken up in this study. They were followed up till Mar. 88. Cavernous haemangiomas only were included as these lesions usually do not regress spontaneously. None of these patients had haemangiomas associated with systemic complications. Histopathological examination was done in cases subjected to surgery.

Following methods were used to treat these cases.

(A) Injection of boiling water

Hot water injection was given (as a sclerosing agent) in the lesion in 8 cases. All 8 cases had singular lesion with intact (Non ulcerated) skin. Boiling water was injected approx. 1 ml. per 4 sq. cms. followed by compression for 5-10 mts. This was repeated after 1 month interval for 3 injections.

(B) Oral corticosteroids

Prednisolone orally was given in 16 cases. Each case had multiple diffuse haemangiomas. Initial dose of 8-10 mg/kg body weight per day was given on day Ist, 4th, 7th, 10th, 13th and 16th; then reduced to 4-5 mg/kg body weight and was given on day 19th, 22nd, 25th, 28th, 31st and 34th. Likewise it was further continued till it was reduced to 1 mg/kg body weight per day. It was then discontinued after 6 such doses on every 3rd day. A careful examination was carried out to see any untoward side effects of steroids like weight gain or infection.

(C) The compression therapy

18 patients were treated by compression therapy. The lesions were covered with polyurethane foam and elastic compression bandage under tolerable pressure. All 18 cases had single lesions on extremities. The pressure was sufficient to obliterate venous channels so as to empty the haemangioma and was continued nearly 24 hours a day. (Except at the time of bath).

(D) Surgery

46 patients were treated with excision. The

defect was either closed primarily or by local flaps or by skin grafting where the raw area was wide. The cases were chosen where the lesion was single, excisable, resistant to other modalities, ulcerated, in vicinity of mouth, anus, eyelids.

(E) No treatment

12 cases refused any type of treatment but were ready to come for follow up and were included in the series as control group.

The results were classified as :—

1. 100% reduction in size or complete disappearance as-very good.
2. 75% reduction in size as-good.
3. 50% reduction in size as-fair.
4. Less than 25% reduction as-Poor.

Observations

All the cases were diagnosed at or within 15 days of birth. However 73 cases were brought for treatment within 3 months of age. Red discoloration and swelling were the commonest presenting features. Only in 7 cases the skin was not involved. The different modalities of treatment used in these cases is shown in (Tab.1)

Table-1. Type of Treatment Given & Number of Patients

Type of Treatment	No. of cases
Boiling water injection	8
Oral corticosteroids	16
Compression treatment	18
Surgery	46
Control (No treatment)	12
	100

(1) 8 patients treated with boiling water injections did not show any improvement. Moreover the procedure was painful.

(2) 11 out of 16 patients who were on oral prednisolone therapy showed complete regression at the end of 3 months. While remaining 5 showed approximately 75% improvement at the end of the treatment. At the end of 2 years they showed no further change. At 5 yrs. follow up 13 of them came for follow up while three of them were lost for follow up. Over all good results were seen in flat & spreading lesions & in younger children. (Tab. 2)

(3) Compression treatment showed 50% regression at the end of three months in 12 cases. They were asked to continue compression till the lesions disappeared. At 2 yrs follow up 9 of them were totally cured, 4 showed good result 2 showed fair while 3 did not respond. At 5 yrs, follow up one case showed reddish hue but was happy. 3 did not turn for follow up.

(4) All 46 patients who were subjected to surgery were free from any recurrence and were satisfied with the treatment at 3 months. One showed recurrence after 1 year. Histological examination of these lesions showed a mixed cavernous haemangioma in 35 cases, haemangioendothelioma in one case and haemartoma in two cases. The recurrence was seen in a case of haemartoma.

(5) In the control group of 12 cases of cavernous haemangiomas only one case (Fig. No. 11) showed regression at the end of 5 years,

Table-2. Results & Followup

	3 months					2 Years					5 Years				
	V. Good	Good	Fair	Poor	Total	V. Good	Good	Fair	Poor	Total	V. Good	Good	Fair	Poor	Total
Injection of Boiling water	—	—	—	8	8	—	—	—	8	8	—	—	—	8	8
Oral Costicosteroids	11	5	—	—	16	11	5	—	—	16	11	2	•3	—	16
Compression Therapy	—	—	12	6	18	9	4	2	3	18	9	6	—	•3	18
Surgery	46	—	—	—	46	45	—	—	1	46	45	—	—	•1	46
No treatment	—	—	—	12	12	—	—	—	12	12	—	1	—	1	12

but the skin was still reddish in colour and rough. Two patients submitted to surgery as there was no regression (Fig. No. 9). The remaining 9 cases did not come for follow up.

Discussion

The management of haemangiomas has not changed over the years. What has changed significantly is the indication and relative indication for a particular modality of treatment.

(1) Conservative management in the hope that involution will take place is followed in cases of capillary haemangiomas (Lister 1938). But it is seen that all of them do not subside without treatment. In cavernous variety regression is rare (Fig. 11) and majority of them do not show any sign of regression at all (Fig. 9). Reassurance to the patients though sounds simple is extremely difficult as the parents are terribly worried and doubtful about the benign nature of the lesion. They are suspicious about expectant attitude. Either they turn to some practitioner who make a mess of it (Fig. 5) or insist for some type of treatment which will remove the blemish as early as possible.

(2) Injection of hot water in the haemangioma is not only extremely painful but it fails to give any satisfactory result. In addition there is threat of sloughing, ulceration and bad scarring (Fig. 5).

(3) Compression (Mangus 1972, Miller 1976) with elastic crepe bandage continued for three months gives good result but it is possible only in cases of lesions on the extremities (Fig. 3). In lesions on other areas this modality is impossible. Prolonged compression of vessels probably results in narrowing of its lumen, stasis in blood flow and eventual fibrosis (Miller 1976), In our series 12 out of 18 patients on this mode showed 50% regression at the end of three months which is a satisfactory response, Later at 2 yr. follow up 9 of them had almost complete regression.

(4) Oral corticosteroids is the treatment of choice for large haemangiomas on the face or at important orifices and/or for lesions difficult to excise without causing disfigurement (Fost 1968, Zarem 1967), Our experience of complete regression in 11 patient and 75% regression in another 5 patients corraborates with the result of other authors.

(5) Surgical extirpation of the lesion is a well accepted entity and is strongly indicated in the following situations (Grabb 1973 Stark 1973).

1. Severe recurrent bleeding/ulceration.
2. Lesions appearing after 1st year of life which do not show sign of either growth or regression.
3. Lesions which are painful.
4. Lesions with doubtful diagnosis (other neoplastic tumours of blood vessels).
5. Lesions around important orifices and vulnerble to trauma.
6. Cassabach's syndrome : capillary haemangioma with thrombocytopenia leading to bleeding malformations.
7. A small lesion amenable to surgery with out disfigurement.
8. Psychological distress on the part of the parents is a relative indication.

In our series we treated 46 cases by surgery. In 18 cases the lesion appeared after 1st year and was stationary in size and shape. In 11 patients the lesions were near important orifices & were getting repeatedly traumatised. In 15 cases the lesion was small enough for excision and the parents were anxious. In 2 cases diagnosis was doubtful. It was later proved to be haemartoma and haemangioendthelioma.

Complete excision and primary closure or skin grafting was the surgical procedure adopted. Careful dissection and meticulous ligation of blood vessels is mandatory. Complication of surgery like wound infection, dehiscence, bleeding or scar hypertrophy was not seen in any of the cases. As the cavernous haemangiomas are not known to regress it may not be advisable to wait especially if the lesion is likely to bleed or get complicated otherwise.

Other methods of treatment like radiotherapy, cytotoxic drugs, embolization, diathermy and cryo coagulation were not tried on any case in this series, so their merits and demerits are not discussed.

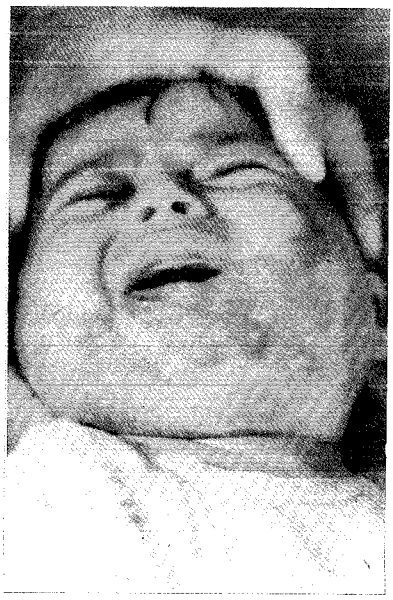

Fig. 1. A case of extensive cavernous haemangioma on face.

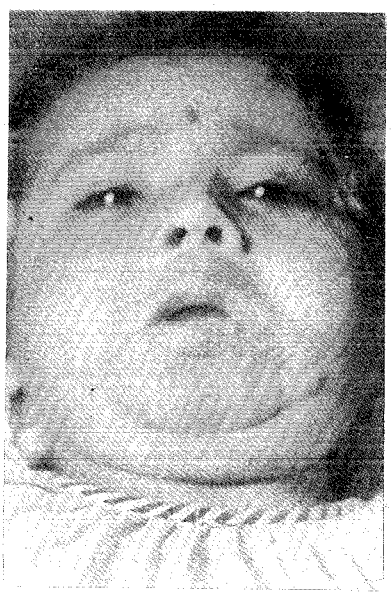

Fig. 2. Same patient shown in Fig. 1, after a course of Prednisolone.

Fig. 3. A case of cavernous haemangioma on forearm.

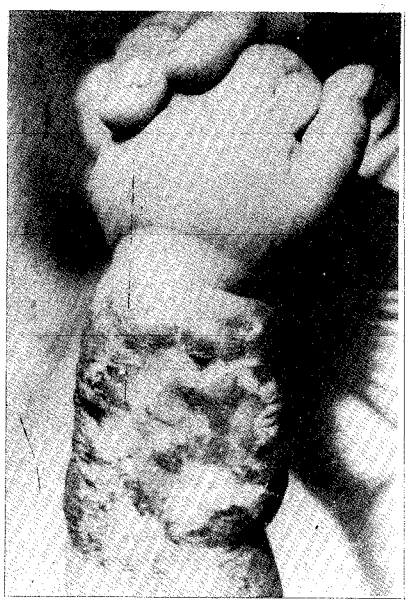

Fig. 4. Same patient shown in Fig. 3, one month after compression therapy.

Fig. 5. A case of cavernous haemangioma on Lt. mallar region with ulceration following injection of sclerosing agent (? unknown.)

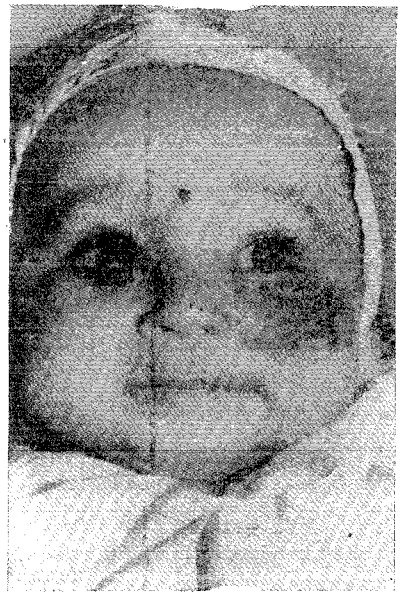

Fig. 6. Same patient shown in Fig. 5, after excision and split skin graft.

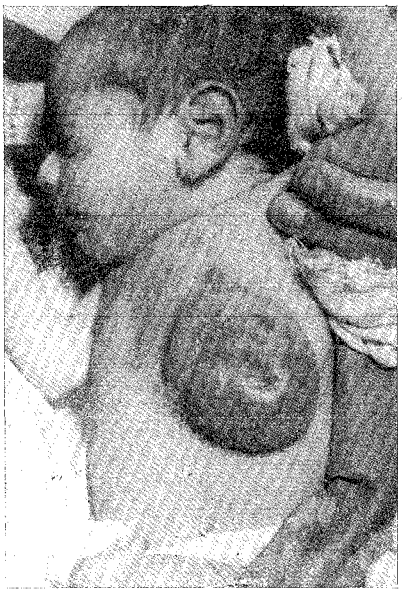

Fig. 7. Cavernous haemangioma on the chest.

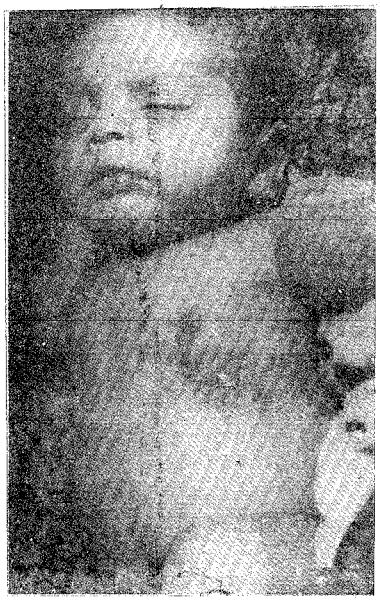

Fig. 8. Sa me patient showin Fig. No. 7 after excision & primary closure of the defect.

Fig. 9. Cavernous hemangioma-upper lip. (Age of the patient 17 yrs.)

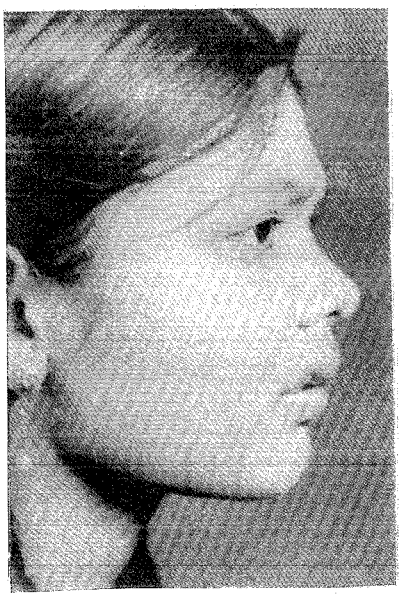

Fig. 10. Same patient shown in Fig. 9 after excision & primary closure.

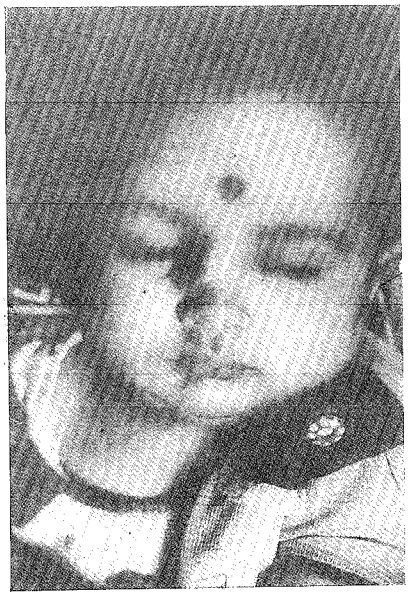

Fig. 11. Cavernous hemangioma Rt. epicanthal region enchroaching on nose & on (R) supraclaviclar area.

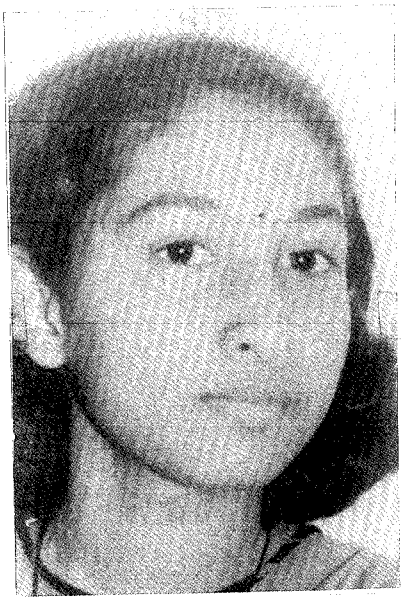

Fig. 12. Same patient followed up for 12 yrs.

Conclusion

In cavernous haemangiomas surgery is the modality of choice, wherever possible as it gives consistently good results and minimum disfigurement. It leaves behind no residual lesion and avoids a recurrence and provides the desired satisfaction to the worried and anxious parents.

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