

LOCAL STEROID THERAPY IN CUTANEOUS HEMANGIOMAS

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Received for publication: February 3, 1995; Accepted: May 24, 1995

Objectives: To evaluate the efficacy of intralesional triamcinolone in enhancing regression in various type of hemangiomas. **Setting:** Outpatients department of a teaching hospital. **Subjects:** One hundred and five patients with rapidly growing surface hemangioma. The age ranged from 1 month to 15 months (mean 7 months). **Intervention:** Intralesional triamcinolone administered at monthly intervals, ranging from single injection to 7 injections (mean 3.6 injections). **Main outcome measure:** Regression of the hemangioma. **Results:** The overall response rate was 88.6% (excellent 51.4%, and good 37.2%). Maximum response was observed in children below 1 year of age (>90%), lesions over the face (92.8%) and strawberry hemangiomas (99.9%). **Conclusion:** Intralesional administration of triamcinolone devoid of systemic side effects and an effective initial modality for rapidly growing hemangiomas.

Key words: Hemangioma, Triamcinolone.

CONSIDERABLE controversy exists as to the management of hemangiomas. Active treatment is, as a rule, unnecessary. In some instances, however, the rapid growth may be responsible for severe cosmetic disfigurement, or may even endanger life. The decision to employ active therapy must be determined by the hemangioma's individual features such as rapidity of growth, and its anatomical location. Local use of steroid therapy has been recommended because of its fast action (1,2). Katz and Askin (3) reported the regression of a hemangioma in a child while treating thrombocytopenia with steroids. Later on, several authors have reported successful management by systemic corticosteroid, with potentially serious side effects (4-8).

We have used low dose, systemic corticosteroid therapy since 1970 and found

satisfactory results (9). But due to the various side effects and long duration of treatment, intralesional injection of triamcinolone was tried in 105 patients and its effect was evaluated.

Subjects and Methods

This work was carried out as out-patients procedure. A total of 105 patients (63 girls and 42 boys) were evaluated. The mean age was 7 months (range 1 to 15 months). Indications for the treatment were rapidly growing lesions (24 cases), lesions with visual problems (21 cases), bleeding (11 cases) and cosmetic concern (49 cases). Mean follow-up was 15 months (range 2.5 to 40 months).

Intralesional injection of triamcinolone was given in a dose of 1 to 2 mg/kg of body weight (maximum of 60 mg) at monthly interval. The dose depended on

the age of the patient and size of the lesion. The number of injections varied from single injection to seven injections with a mean of 3.6 injections. The criteria for the stoppage of the injection treatment included lack of compressibility, development of complications or lack of response to the treatment.

The injection was given by a 22 gauge needle directly into the lesion and pressure was applied to stop bleeding for 5 minutes. The patients were followed up fortnightly. At each visit, besides detailed examination of the hemangioma, assessment was also made for growth delay or any other side effect of the treatment. The response to the treatment was graded as shown in results.

Results

Excellent: More than 75% regression in size with no scarring or insignificant scarring was seen in 54 cases (51.4%).

Good: 50 to 75% regression in size with minimal scarring was seen in 39 cases (37.1%).

Poor: 25 to 50% regression in size with scarring was seen in 3 cases (2.9%).

No response: Less than 25% regression in size or no response at all, was seen in 9 cases (8.6%).

The response rates with this modality of treatment in various types of hemangiomas are shown in *Table I*. Patients less than 1 year of age showed better response. Similarly lesions situated on the face showed better result (*Table II*).

Atrophy of the skin and ulceration occurred in one case each, while infection occurred in 2 cases. No patient developed growth delay or cushingoid fades.

Discussion

Conservative management of infantile

TABLE I—Response in Hemangiomas Treated with Intralesional Triamcinolone.

| Type of Hemangioma | Excellent | | | Good | |
|--------------------|-----------|-----|------|------|------|
| | No. | No. | % | No. | % |
| Strawberry | 51 | 30 | 58.8 | 21 | 41.1 |
| Cavernous | 24 | 9 | 37.5 | 6 | 25.0 |
| Mixed | 30 | 15 | 50.0 | 12 | 40.0 |

TABLE II—Response of Hemangiomas (Per cent) with Intralesional Triamcinolone

| Age & site | No. | Excellent | Good | Poor | No response |
|---------------------|-----|-----------|-------|------|-------------|
| Age (months) | | | | | |
| <6 | 45 | 60.0 | 33.3 | | 6.7 |
| >6-12 | 36 | 50.0 | 41.7 | | 8.3 |
| > 12-15 | 24 | 37.5 | 37.5 | 12.5 | 12.4 |
| Site | | | | | |
| Face | 42 | 64.3 | 28.6 | | 7.1 |
| Trunk | 30 | 50.0 | 40.0 | | 10.0 |
| Upper Extremity | 18 | 33.3 | 50.0 | | 16.7 |
| Lower Extremity | 15 | 40.0 | 40.00 | 20.0 | |

hemangiomas have been advocated in the past (6,7). Though the incidence of spontaneous resolution in cutaneous hemangioma is very high, the results are quite unpredictable, incomplete and may take several years to achieve, causing tremendous anxiety to the parents. Hence, various modalities have been tried from time to time to enhance spontaneous regression. Complications include severe scarring with surgery, cutaneous atrophy with freezing, scarring and unpredictability with sclerosing injection (1,5).

The systemic use of steroids is not ideal as this therapy requires careful monitoring of the child's growth, metabolic status and

exposure to infectious agents. Regrowth of the hemangioma was noted after reduction or termination of therapy (7). Kurshner(10,11) used intralesional injection of 40 mg triamcinolone and 6 mg betamethasone in the treatment of 4 cases of eyelid hemangioma, out of which 3 patients responded. Later Abe (2) and Gerald, *et al.* (12) also reported successful treatment of hemangiomas with intralesional steroid therapy.

The mechanism of action of steroids is not clearly understood. Zarem and Edgerton (8) showed minimal inflammatory activity in biopsy specimens of hemangioma in 3 of their patients, while Edgerton (4) has shown that steroids tend to sensitize the vascular bed to vasoconstricting agents. Steroids are considered as an angiogenic inhibitor in the presence of heparin (13); hormone receptors are considered important in mediating the action of steroids on proliferating hemangiomas (6,7). We have seen that the effect of intralesional triamcinolone was more on hemangiomas with finer vessels (strawberry and mixed). This observation has led us to conclude that the above mentioned theory of sensitization of the vascular bed to vasoconstricting agents is probably the most important mechanism for regression of hemangioma.

We conclude that intralesional injection of steroids is safe and effective for treatment of hemangiomas. To get optimum response they should be used in patients below one year of age. Strawberry and mixed hemangiomas of the face respond best to this therapy. However, for cavernous hemangiomas, it can also be tried as the initial therapy to be followed by other modalities, if found ineffective. Another advantage of intralesional steroids is that unlike systemic steroid it is free from major side effects.

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