Local Steroid Therapy of Adnexal Strawberry Hemangioma in Infants – Long-Term Follow-up

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Summary. Two patients with orbital or ocular adnexal neonatal hemangiomas were treated with intralesional injection of triamcinolone acetonide. Injection of steroids was started at 2 mg/kg twice a week. The doses of this drug were decreased gradually over a four week period. A dramatic reduction of the lesion was evident without a rebound phenomenon: however growth delay continued for only three months after therapy. No exact study of the storage of this compound in the tissue has been reported. The storage of triamcinolone acetonide was investigated for a period of up to 35 days in the tissue of rabbit backs. The level of the residue was suggested to occur at about 60 days after injection of triamcinolone acetonide. In the two infants of the experimental study with strawberry-type nervus, the storage in the tissue of hemangioma was much higher than in rabbits. These results were comparable to the duration of the growth delay.

Key words: Intrallesional injection of triamcinolone acetonide – Growth delay – Strawberry mark hemangioma – Orbital region.

Strawberry-type hemangioma is a non-inherited benign tumor composed of proliferating endothelial cells and anastomosing blood-filled channels. In most cases, a flat red spot or small mass is noted at the time of birth or during the first six months of age which then grows rapidly for the next three to six months. It remains quiescent for about one year, and then regresses spontaneously in nearly all cases [1–3]. Active treatment is, as a rule, unnecessary. In some instances, however, the rapid growth may be responsible for severe cosmetic deformities, or may even endanger life. In each case, the decision to employ active therapy must be determined by the hemangioma's individual features, such as rapidity of growth, and its anatomical location. When a hemangioma involves the eyelids or adnexa, amblyopia and restriction of ocular mobility can occur and in such cases one cannot await spontaneous involution [10–12]. The clinician must act to preserve the threatened vision. The usual procedures include cryotherapy [13], radiation therapy [15, 16], injection of sclerosing substances such as saturated saline [14] and magnesium [17] or plastic surgery [13], all of which are potentially dangerous and disfiguring. Numerous reports have appeared advocating the use of systemic steroids in the management of hemangiomas in children [5–8], this, however, is also associated with complications.

Two cases of strawberry-type hemangioma of the eyelid and adnexa treated with local steroid injection are presented. These cases have been followed over the past four years. The intramuscular administration of triamcinolone acetonide is known to have a long lasting effect. The plasma levels of this steroid were investigated using labelling, up to 21 days after local injection [9]. There is, up until now, no exact information on storage of this compound in the tissues. Experimentally, we determined the residue of triamcinolone acetonide in the skin of rabbits and humans with a strawberry hemangioma who were given an injection of this drug. The aims of the present paper were:
Fig. 1. Case 1. A 2½ month-old infant girl with strawberry mark hemangioma on the entire right side of the face. The enlarged eyelid obstructed the vision before initial therapy which produced a slight regression of the mass.

Fig. 2. 9½ months later prior to intralesional injection of much larger doses of triamcinolone acetonide.

Fig. 3. At 1 year old after triamcinolone acetonide therapy. Total doses of triamcinolone acetonide were 132 mg. Dramatic reduction was observed in the size of the lesion, especially the eye region.

Fig. 4. At 4 years old, slight ptosis with normal vision.

Fig. 5. Case 2. A four month-old infant boy with strawberry hemangioma of both eyelids. The enlarged eyelid partially obstructed the vision.

Fig. 6. Two weeks after steroid injection, tumor reduced in size.

Fig. 7. At four years old with completely reduced residual hemangioma and normal vision.