Brief Reports

OK-432 Injection Therapy for Lymphangiomas

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Lymphangiomas represent a congenital malformation of the lymphatic system. The lesions are characterized by dilated endothelium-lined spaces varying in size from microscopic channels (cavernous lymphangioma) to a large cyst or cysts (cystic lymphangioma or cystic hygroma)(l,2). Surgical excision has been the treatment of choice, but the reported results have been unsatisfactory (l,3,4). The endothelial lining of these lesions is vulnerable to infection and chemical irritants. Thus infection can result in spontaneous reduction in the size of some lymphangiomas(l,5), but this is rare. In an attempt to exploit this phenomenon various sclerosants like bleomycin, tetracycline, warm saline, *etc.* have been tried but with little success (l,6,7).

In 1987, intra-lesional injection of OK-432 was reported as an alternative treatment for lymphangiomas(8,9). OK-432 is a lyophilized mixture of a low virulent Su strain of type III, group A *streptococcus pyogenes* of human orgin, which has been incubated with penicillin G. Herein we report the results of treatment using intra-lesional OK-432 for lymphangiomas in children.

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Subjects and Methods

Twelve cases of lymphangiomas were treated with OK-432 between January 1993 and November 1994. This was given as primary therapy in 10 cases and secondary treatment (after incomplete surgical removal) in 2 cases. The fluid was prepared by diluting 0.1 mg of OK-432 in 10 ml of normal saline (0.9% wt/vol). Lesions were first aspirated wherever possible and the volume of fluid aspirated was replaced with an equal quantity of the diluted OK-432 after giving a test dose. The procedure was done under sedation or general anesthesia depending upon the age and the site of lesion. The maximum dose at one time in initial sitting never exceeded 0.1 mg. During follow up, if the lesion did not resolve and shrinkage ceased (usually 3-6 weeks post injection) a second intra-lesional injection was administered. The doses were subsequently increased up to a maximum of 0.3 mg per injection. Following the injection, no anti-inflammatory drugs or antibiotics were given.

Results

There was total shrinkage of the lesion in one case, marked shrinkage in 6 cases *(Fig. 1 & 2),* slight shrinkage in 4 and no response in one. Moderate to high grade fever occurred in all patients after the injection and lasted for 2 to 4 days. A local inflammatory reaction, with slight

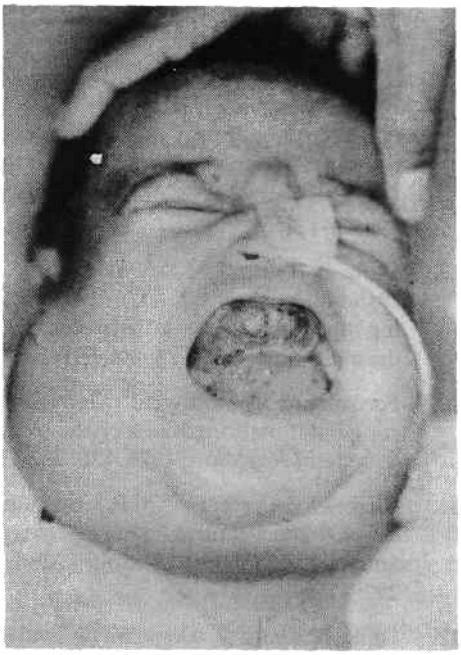

Fig. 1. Neonate with ahuge cervical cystic hygroma involving tongue, floor of the maouth and submandibular region. The child was unable to swallow milk at birth.

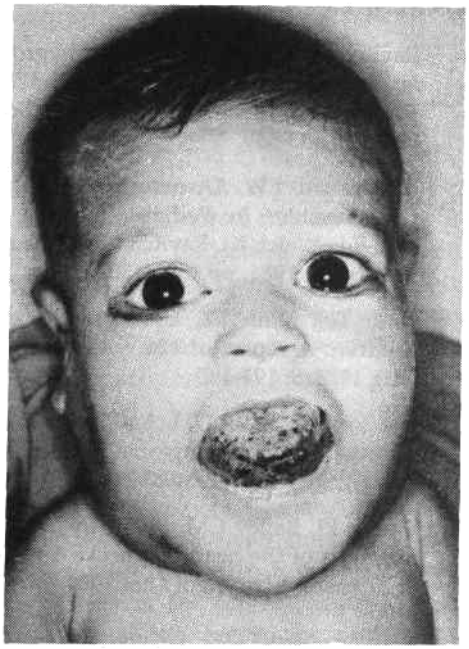

Fig. 2. The same child as shown in Fig.1 after 3 injections of OK-432. The child can now swallow liauids easilv.

tenderness, erythema and swelling of the lesion which lasted for 3-7 days was noted in almost all patients. This did not result in any damage to the overlying skin or cause scar formation in any patient

Discussion

Complete surgical removal of large lymphangiomas is often difficult because of the multiple finger like projections characteristic of these lesions. In addition, vital nerves encased by the lesions are most vulnerable to damage during surgery. On the other hand, lymphangiomas of the lips, cheek and tongue are often a part of an essential structure and complete removal of these lesions may mean complete removal of such organs. The results of surgery after subtotal excision are reported to be unsatisfactory(3,6,10). It is therefore, important to develop an effective treatment for surgically unresectable lymphangiomas.

Sclerosants used previously like bleomycin, tetracyclme, warm saline, *etc,* cause sclerosis and unpredictable scarring. Bleomycin is known to cause pulmonary fibrosis, a serious side effect that may be fatal(ll).

OK-432 is used as a biological response modifier in Japan(lO). It damages the endothelial cyst lining in the cases of cystic hygroma and causes adhesions of the cyst wall, obliterating the cavities and preventing further accumulation of lymph(12). OK-432 did not damage the overlying skin and did not lead to scar formation.

It is concluded that OK-432 is an effective sclerosant for therapy of lymphangiomas.

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NOTES AND NEWS

EIGHTH MAHARASHTRA STATE IAP CONFERENCE

This event will be held at Mumbai from 10-13th October, 1996 under the auspices of Mumbai Branch of IAP. The main conference will be held at Tata Memorial Hospital, Mumbai on 12th and 13th October, 1996. There will be 8 Pre-conference Workshops to be held concurrently on 10th and 11th October, 1996, one at each major medical institute. For further details please contact: Dr. M.R. Lokeshwar, Organizing Chairman or Dr. Nitin Shah, Organizing Secretary, Kashyap Nursing Home, 3rd Floor, Imperial Mahal, Khodadad Circle, Dadar T.T., Mumbai-400 014, Tel. 4128020 Fax: 00-91-22-4145056-Attn. Dr.. M.R. Lokeshwar.