Acetic Acid Sclerotherapy in the Treatment of Head and Neck Lymphangiomas

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INTRODUCTION

Traditional interventional radiologic approaches to head and neck lymphangiomas include bleomycin injection and treatment with OK-432, which can induce pulmonary fibrosis/interstitial pneumonia and shock, respectively. Surgical approaches are often complicated by postoperative neuropathies. Acetic acid is a less caustic substance which can be used for sclerotherapy with similar success rates as other sclerosants. This treatment has not been reported in the head and neck literature.

METHODS AND MATERIALS

As described by Won et al., 2004,1 a 6 French pigtail catheter was placed into the lesion and cystic fluid removed. A 50% iodinated contrast solution was injected into the cavity to ensure there was no leakage into the surrounding tissues. This was removed and sclerosant was injected into the cavity of the lesion. The sclerosant mixture consisted of a concentration of 40 to 50% acetic acid, with equal volumes of normal saline and 1% lidocaine. The patient remained supine for 10 to 15 minutes and was rotated 90 degrees for the same period. This was repeated twice. The mixture was then aspirated and irrigations with normal saline solution were performed.

RESULTS

The first patient was a 35 year-old man with a temporal lymphangioma. The second patient was a 16 year-old male with a cervical lymphangioma which required revision sclerotherapy after treatment. The third was a 53 year-old woman with a supraclavicular lymphangioma.

PATIENT 1

A,B) T2 weighted high signal intensity lesion with septations and macrocystic/microcystic features within the preauricular scalp extending to the parapharyngeal space. C,D) Fluoroscopic images after injection with contrast outlines a macrocystic component. Note extension of the lesion (D) into the neck.

PATIENT 2

A) T1-weighted and B) T2-weighted axial images showing a macrocystic lesion of the right neck and shoulder with internal septations. The high signal intensity of the lesion on both sequences is consistent with a lymphangioma.

PATIENT 3

A) T1-weighted coronal image showing a lesion in left lower neck and supravacular fossa. B) Contrast opacified macrocystic lesion prior to sclerotherapy.

DISCUSSION

Ohta et al. recently described OK-432 as a sclerosant used in the head and neck, and fever was the most common complication.2 Although they reported no serious complications, OK-432 is a derivative of Group A Streptococcus pyogenes and thus has potential complications such as post–rheumatic fever sequelae and glomerulonephritis.

Although no cases of pulmonary fibrosis have been reported with the use of bleomycin as a sclerosant (possibly due to lower systemic levels than during chemotherapeutic use), this remains a concern because of its cytotoxicity.3

Of the 12 lymphangiomas treated with acetic acid sclerotherapy by Won et al.,1 5 were located in the neck. Total resolution of the lymphangioma was achieved in eight patients (66.7%) and good resolution (>50% reduction) in three (25.0%). Potential complications of acetic acid sclerotherapy include pneumonitis adjacent to the lymphangioma, pain, and tingling sensations.1

CONCLUSIONS

Acetic acid is a less caustic and yet still efficacious sclerosant that has not been explored widely in the head and neck. Treatment of 3 patients with head and neck lymphangiomas is described. Randomized trials are needed to evaluate the outcomes of different sclerosants for head and neck lesions and to better define their complications.

REFERENCES