Interventional Ethanolamine Oleate Sclerotherapy for Treatment of Benign Lesions of the Head and Neck: Case Report

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Background

The following malformations were examined in this study:

- Benign Lymphoepithelial Lesion (BLEL): Lymphoepithelial lesion of the parotid gland due to cell hyperplasia in HIV-positive patients, resulting in cosmetic disfigurement.
- Plunging Ranula: Mucocele formed by trauma or obstruction of the sublingual duct that dissect through the mylohyoid muscle into the submandibular space, accompanied with swelling in the floor of the mouth.
- Thyroglossal Duct Cyst (TDC): Congential malformations caused by a persistent embryonic thyroglossal duct remnant, often accompanied with dysphagia.
- Venous and venolymphatic malformations of the head and neck.
- Current therapy for these benign lesions is surgical resection.

However, perioperative complications are a serious concern, prompting investigation into Sclerotherapy as an alternative treatment option.

Ethanolamine oleate (EO), a type of anionic surfactant, has been demonstrated to be a safe and effective thombogenic treatment for vascular malformations in the head and neck and esophageal vascular malformations in the head and neck, inducing endothelial injury.

Materials and Methods

Preprocedure assessment: Patients received complete history, physical, and noninvasive imaging examinations to demonstrate presence of plunging ranula.

Procedure:

1. Local anesthesia with conscious sedation or general anesthesia.
2. Ultrasound and fluoroscopic guided placement of a needle into the malformation.
3. Aspiration of malformation.
4. Injection of ethanolamine sclerosant and Visipaque 320(4:1) into the malformation equal to or less than the volume of aspirated fluid under ultrasound and fluoroscopic guidance.
5. Re-aspiration of the solution may be done after the procedure. Patients are discharged with a Medrol pack as needed.

Results

The results criteria depend on the amount of shrinkage of the ranula compared before and after injection. Dimensions of the lesions are compared pre and post-procedurally, and upon follow-ups.

- Total Shrinkage: Reduction of lesion volume by 95%
- Partial Shrinkage: Reduction of lesion volume by less than 95%

Recurrence: A lesion volume remaining at original size.

Eight Patients Treated:

- Case 1: Total Shrinkage
- Case 2: Partial Shrinkage
- Case 3: Recurrence
- Case 4: Total Shrinkage
- Case 5: Recurrence
- Case 6: Recurrence
- Case 7: Partial Shrinkage
- Case 8: Partial Shrinkage

There were no complications.

Cases

Case 1: 34 year old male with history of HIV, with a right parotid lymphoepithelial cyst. 20 ml of thick amber-colored fluid was aspirated prior to sclerosing, resulting in total shrinkage of the lesion.

Case 2: 40 year old female with history of HIV/AIDS, with multiple large bilateral lymphoepithelial lesions in the parotid glands. The patient had previous aspiration therapy, but lesion recurred. Three separate EO Sclerotherapy procedures were performed in a 2 week span to fully sclerosise the septated lesions, resulting in partial shrinkage of the lesions.

Case 3: 47 year old male with a swelling mass in the left submandibular region and floor of the mouth. Imaging showed a cystic lesion in the sublingual region dissecting into the submandibular space, consistent with a plunging ranula. Under ultrasound guidance, a 21 gauge micropuncture needle was used to aspirate 12 ml of amber-colored fluid. 12 ml of EO sclerosant was injected and after 40 minutes aspirated. The lesion later recurred.

Case 4: 33 year old female with left facial swelling. Imaging showed a simple cystic mass in the left submandibular region extending below the mylohyoid muscle, consistent with a plunging ranula. Under ultrasound guidance, a 21 gauge micropuncture needle was used to aspirate 2 ml of fluid and administer the EO sclerosant, resulting in total shrinkage.

Case 5: 16 year old male with a recurrent thyroglossal duct cyst at the base of the tongue. The lesion later recurred.

Case 6: 64 year old female with an orbital mass, confirmed as hemangioma upon angiography. A direct puncture of the orbital tumor was performed under ultrasound guidance and EO sclerosant injected. The lesion later recurred.

Case 7: 54 year old male with a lower lip hemangioma. A total of two sclerosing treatments were performed during the procedure, resulting in partial shrinkage of the lesion.

Case 8: 61 year old male with right cheek and tongue hemangioma. This required three sites of access: the right inner cheek, right anterior tongue, and right posterior tongue, resulting in partial shrinkage of the lesion.

Conclusion:

- This study illustrated favorable results for the use of Ethanolamine Oleate Sclerotherapy as an alternative to surgery for benign lesions of the head and neck.
- The data from these eight cases, illustrates efficacy without complications.