



Young man with pain and non-pulsatile mass in the right parotid region

DIVISION OF INTERVENTIONAL NEURORADIOLOGY

Presents a patient case treated by the team members of the division and physicians and staff of the UCLA Comprehensive Stroke Center

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PATIENT PRESENTATION

- 31-year-old man born with non-pulsatile mass diagnosed as a vascular malformation, presents for evaluation and treatment. His main complaint was recent increasing pain and increased swelling of the lesion.

EVALUATION AND IMAGING

- MRI showed a well circumscribed multilobulated mass with heterogeneous signal intensity, mainly hyperintense on T2W imaging, in the right parotid region. There were no flow voids within the lesion suggestive of AVM (Fig. 1). The imaging was consistent with a venous malformation.

INTERVENTION PERFORMED

- Percutaneous sclerotherapy was performed to occlude the venous channels and to shrink the lesion (Fig. 2). IV antibiotics are given prior to the procedure and patient is placed on five days of oral antibiotics to reduce the risk of infection.



Figure 1: T2W image shows large hyperintense mass (arrow) in the right parotid region. The appearance is consistent with low flow venous malformation.



Figure 2. A 22G needle is used to access the lesion percutaneously. The venogram here shows a portion of the many enlarged abnormal venous channels (arrow). The enlarged venous channels are the target of therapy with sclerosing agent injected into the lesion to thrombose and shrink the malformation. Several compartments are accessed and injected during a single session.

INTERVENTIONAL NEURORADIOLOGY



Brain Hemorrhage, Aneurysm/AVM/fistulae

- Aneurysm coiling
- Stent/balloon assisted aneurysm coiling
- Flow diverter stent device embolization
- AVM/Dural fistulae embolization
- Venous Sinus Thrombectomy/Thrombolysis
- Direct transcatheter embolization

Chronic Occlusive Cerebrovascular Disease

- Extra/Intracranial Angioplasty/Stenting
- Venous Sinus Angioplasty/Stenting

Head/neck/orbit tumors & vascular malformations, epistaxis

- Endovascular embolization
- Direct percutaneous embolization



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PATIENT OUTCOME

- The patient tolerated the procedure well and was discharged after 3 hours of observation.
- On follow up visit, the patient had reported not only shrinkage of the lesion but marked improvement in pain and swelling. He underwent 3 additional sessions of sclerotherapy with continued improvement in pain and significant reduction in size of the lesion.

DISCUSSION

• Venous malformations are one of the most common benign vascular lesions consisting of abnormal collection of enlarged venous channels. They can occur throughout the body with head and neck being affected in 40% of cases. They are post capillary lesions and have no arteriovenous shunting. The lesions grow in proportion with the body, demonstrating lifelong development, and unlike hemangiomas do not regress spontaneously. Venous malformation can be disfiguring and associated with pain, ulcers, bleeding, and the compression or invasion of nearby structures. These complications may impact speech, swallowing and respiratory function. There are various kinds of treatment methods for venous malformation, including surgery, percutaneous sclerotherapy, laser therapy, cryotherapy and electrocoagulation. Sclerotherapy has become the current mainstream treatment for venous malformation. For large lesions, multiple treatments are necessary. Sclerosing agents work by destroying the endothelial cells of blood vessels in the malformation, promoting thrombosis and causing vascular occlusion through thrombotic mechanisms. The risk of treatment is very low and the treatment is performed as an outpatient procedure. It is highly effective in reducing pain and the size of the lesion.

Division of Interventional Neuroradiology – A Leader in Neurovascular Care and Research

- Invented the Merci retriever – the 1st endovascular device for acute stroke therapy
- Invented GDC and Matrix coils – the leading tool for aneurysm treatment around the world
- Developed Onyx liquid embolic material – the leading therapy for brain vascular malformations



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