

# Intraparotid facial varix

Jeffrey E. Silpe, MD, Regis Hila, MD, Gregg S. Landis, MD, and Yana Etkin, MD, *Hempstead, NY*

## ABSTRACT

A 72-year-old man had presented with a 4-day history of progressive left-sided facial swelling associated with pain. The physical examination revealed left facial fullness over the parotid gland without tenderness to palpation. His vital signs and laboratory test findings were within normal limits. A computed tomography scan demonstrated a left facial varix measuring 3.4 cm × 2.8 cm within an unremarkable-appearing parotid gland. Parotidectomy vs close observation were discussed, and the patient decided to pursue nonoperative management. Ultimately, his symptoms were self-limited, and the swelling had resolved within 6 months after the diagnosis. Interval computed tomography demonstrated a thrombosed left facial varix measuring 1.3 cm × 1.1 cm. (*J Vasc Surg Cases Innov Tech* 2022;8:13-5.)

**Keywords:** Facial mass; Varicose veins; Venous disease

Facial varices are dilated, thin-walled, tortuous veins that arise secondary to weakening of the venous wall or a distal obstruction.<sup>1,2</sup> They are rare clinical entities, as evidenced by the paucity of existing reports discussing these findings. However, when discovered, they most often affect the orbital vein.<sup>1</sup> The facial vein and/or its branches can also be affected, and these will usually be thrombosed at the diagnosis.<sup>2-4</sup> The presentation can mimic acute and chronic pathologies of the head and neck region, including congenital varicosity, neoplasm of salivary glands or metastatic disease, cysts, abscess, and lymphatic or vascular malformations. Infection, trauma, or contiguous venous obstruction can precede facial varix formation. In the few case reports of facial varix, the location, laterality, symptoms, and acuity all varied.<sup>1-4</sup> The “turkey-wattle sign,” originally described in the English language in 1988, occurs with fluctuation in the size of the mass with bending the head downward.<sup>4</sup> Diagnostic imaging studies, including ultrasound, computed tomography (CT), and/or magnetic resonance imaging (MRI), are important adjuncts for the correct diagnosis, especially because a standardized treatment regimen does not exist. The findings from these imaging studies could also prevent further invasive investigations or procedures.<sup>5</sup> In the present report, we have described the case of a symptomatic facial varix within the parotid

gland. The patient provided written informed consent for the report of his case and the imaging studies.

## CASE REPORT

A 72-year-old man with a history of hypertension, diabetes, hepatocellular carcinoma, and chronic kidney disease presented to the hospital with a 4-day history of progressive left facial swelling and pain. He denied a history of trauma, infection, fever, chills, sore throat, difficulty breathing, or difficulty swallowing. On physical examination, he was noted to have left facial fullness that was not tender to palpation. No erythema, crepitus, or cervical and axillary lymphadenopathy was appreciated (Fig 1).

His vital signs were stable, and his laboratory test results were only remarkable for a mild elevation of the white blood cell count to 11,400/mm<sup>3</sup>. A computed tomography (CT) scan of the neck with intravenous contrast was obtained, which revealed a left facial vein varix measuring 3.4 × 2.8 cm (with no contiguous venous obstruction) within the unremarkable parotid and submandibular glands (Fig 2). The feeding vessels to the facial varix were from the left external jugular and subclavian veins and appeared to be patent (Fig 3).

Surgical management with parotidectomy (partial or complete) vs observation was discussed with the patient, who chose conservative treatment with close observation. However, because of the COVID-19 (coronavirus disease 2019) pandemic, the patient was only able to be seen in follow-up 6 months later. At that point, he was asymptomatic, with resolution of his facial swelling and pain (Fig 4). He underwent repeat CT, and his facial varix measured 1.3 cm × 1.1 cm and was thrombosed (Fig 5).

## DISCUSSION

The workup of a patient who presents with a unilateral swelling at the angle of the mandible requires a comprehensive history, physical examination, imaging studies, and a multidisciplinary care team to address both common and rare causes. Facial varix can present with a painless, unilateral mass that increases in size over time. In contrast, other patients will present with symptoms of headache or tinnitus.<sup>1,5</sup> Systemic signs and symptoms can be used to help differentiate common

From the Division of Vascular and Endovascular Surgery, Zucker School of Medicine at Hofstra/Northwell.

Author conflict of interest: none.

Correspondence: Yana Etkin, MD, Division of Vascular and Endovascular Surgery, Zucker School of Medicine at Hofstra/Northwell, 1999 Marcus Ave, Suite 106, Lake Success, NY 11402 (e-mail: [yetkin@northwell.edu](mailto:yetkin@northwell.edu)).

The editors and reviewers of this article have no relevant financial relationships to disclose per the Journal Policy that requires reviewers to decline review of any manuscript for which they may have a conflict of interest.

2468-4287

© 2021 The Authors. Published by Elsevier Inc. on behalf of Society for Vascular Surgery. This is an open access article under the CC BY-NC-ND license (<http://creativecommons.org/licenses/by-nc-nd/4.0/>).

<https://doi.org/10.1016/j.jvscit.2021.08.006>



**Fig 1.** Lateral profile of face demonstrating swelling over left parotid gland.



**Fig 3.** Axial computed tomography (CT) view of the feeding vessels from the left external jugular and subclavian veins. *Thin white arrow* indicates the feeding vessel from the external jugular vein. *Thick white arrow* indicates the feeding vessel from the subclavian vein.



**Fig 2.** Axial computed tomography (CT) view of left facial varix within the parotid gland.



**Fig 4.** Resolution of left-sided facial swelling.

etiologies such as infection, inflammation, and neoplasms from the more rare anatomic variants such as facial varix. In the present patient, the symptoms progressed fairly quickly, suggesting rapid enlargement of a preexisting varix.

Imaging remains of paramount importance to evaluate the nature of the swelling and determine the presence of the other anatomic structures nearby. Ultrasound, CT with contrast enhancement, and MRI or magnetic

resonance angiography remain the initial best imaging modalities. Ultrasound might be the least expensive and is an appropriate imaging modality to obtain first. However, the usefulness of ultrasound depends on the skill level of the technician and might not provide the anatomic details seen using CT or MRI. Furthermore, treating providers should obtain whichever study they are most comfortable reviewing and interpreting initially and then continue with the same study in an interval fashion, as needed. Our patient had presented initially to the emergency room, and the emergency room physician had ordered



**Fig 5.** Interval computed tomography (CT) scan demonstrating resolving and thrombosed left facial varix.

a CT scan before the vascular surgery evaluation. The CT scan allowed us to diagnose the varix and provided excellent details of the anatomy. Thus, we chose to use the same modality during the follow-up.

The management of facial varices has not been standardized. The options include observation, the injection of sclerosing agents, and surgical excision.<sup>1,2,6</sup> The symptoms of the patient could direct care toward operative or nonoperative management. Surgical exploration and resection have historically been performed owing to the ease of exposure and the decreased likelihood of recurrence.<sup>1</sup> The advances in imaging modalities and their high degree of sensitivity and specificity have been helpful in identifying and characterizing these lesions earlier and more accurately. Some investigators have chosen to observe these patients clinically and to monitor their overall symptoms and discomfort, with equally promising results. For our patient, if the symptoms had not resolved, we had planned to refer him to an ear, nose, and throat physician for partial or complete

parotidectomy. However, parotidectomy is associated with a risk of complications, including facial nerve injury.

The present patient had had pain localized to the facial varix, which was progressively enlarging within the parotid gland. His medical comorbidities are not known to be associated with facial varix. However, because this type of varix has been rarely reported, it is difficult to state the actual associations with facial varices. In the only other case report of an intraparotid varix, the investigators had discovered the varix incidentally while evaluating a parotid mass thought to be a pleomorphic adenoma.<sup>5</sup> The varix had communicated with the retro-mandibular vein inferiorly, and both the mass and the distal vein increased in size on ultrasound imaging with the Valsalva maneuver.<sup>5</sup> The Valsalva maneuver can be a helpful adjunct in diagnosing facial varix. Similar to our case, the varix in their case was a tributary from the external jugular vein.<sup>5</sup> Also, in both cases, when the patient was reexamined, both were asymptomatic with resolution of the mass.<sup>5</sup> The latter finding might be a demonstration of the natural history of intraparotid varices and prevent unnecessary intervention.

## CONCLUSIONS

The data on varices within the parotid gland remain limited. Although the reported cases lacked follow-up information, it would be helpful to continue to report cases of facial varix, including management strategies and outcomes.

## REFERENCES

1. Teraa M, Schellekens PP, Moll FL, de Borst CJ. Symptomatic varix of the facial vein. *Ann Vasc Surg* 2013;27:1188.e1-4.
2. Ashman P, Paskhover B. Fluctuant facial mass. *JAMA Otolaryngol Head Neck Surg* 2020;146:503-4.
3. Ida M, Kurabayashi T, Tanaka A, Sasaki T, Kishi T, Hoshi K, et al. Thrombosed varix in the submandibular space. *Dentomaxillofac Radiol* 1998;27:367-70.
4. Manstein ME, Foote J, Manstein CH, Manstein G. Varix of the facial vein. *Ann Plast Surg* 1988;21:155-7.
5. Wali GN, Mawby TA, Sheerin F, Milford CA. Varix of the retromandibular vein within the parotid gland: case study. *J Laryngol Otol* 2013;127:825.
6. Li J, Chen J, Zheng G, Liao G, Fu Z, Li J, et al. Digital subtraction angiography-guided percutaneous sclerotherapy of venous malformations with pingyangmycin and/or absolute ethanol in the maxillofacial region. *J Oral Maxillofac Surg* 2010;68:2258-66.

Submitted Jun 1, 2021; accepted Aug 17, 2021.