Preoperative Angiography and Embolization of Glomus Tumors of the Head and Neck: Typical Anatomical Patterns of Arterial Supply

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Glomus tumors, or paragangliomas, of the head and neck include carotid body tumors, and glomus vagale, jugulare, and tympanicum. These are hypervascular tumors that can cause significant hemorrhage during operative resection. However, more recently the risk of hemorrhage has been decreased substantially by preoperative embolization of these lesions. We present our series of seven cases of glomus tumor. Glomus tumors have a prominent vascular blush on angiography, as well as characteristic supply that always involve, at least to a variable degree, the ascending pharyngeal artery. We describe the typical appearance of glomus tumors on CT, MR imaging and angiography. As well, we present illustrative cases of preoperative particle and coil embolization of these lesions, as well as their common arteries of supply. Also, we demonstrate that a 90%+ reduction of vascular blush usually can be achieved with this technique. Finally, we present subjective evidence from the surgeons that preoperative embolization decreased intraoperative blood loss, allowing for more accurate tumor dissection and decreased operative time. We also demonstrate that in cases where a lesion that appears typical of a glomus tumor on CT and MR imaging, but shows no supply from the ascending pharyngeal artery an angiography, other diagnoses should be considered.