

## Surgical anatomy of the parapharyngeal space: a multiperspective, quantification-based study

Marco Ferrari<sup>1</sup>, Alberto Schreiber<sup>1</sup>, Davide Mattavelli<sup>1</sup>, Davide Lombardi<sup>1</sup>, Vittorio Rampinelli<sup>1</sup>, Francesco Doglietto<sup>2</sup>, Piero Nicolai<sup>1</sup>, Luigi Fabrizio Rodella<sup>3</sup>

<sup>1</sup> Unit of Otorhinolaryngology – Head and Neck Surgery, Department of Surgical Specialties, Radiological Sciences, and Public Health, University of Brescia, Brescia, Italia

<sup>2</sup> Unit of Neurosurgery, Department of Surgical Specialties, Radiological Sciences, and Public Health, University of Brescia, Brescia, Italia

<sup>3</sup> Section of Anatomy and Physiopathology, Department of Clinical and Experimental Sciences, University of Brescia, Brescia, Italia

Several surgical approaches to the parapharyngeal space (PPS) have been proposed. An objective description of advantages and limitations of the surgical routes is lacking [1, 2]. Ten cadaver heads were dissected using the transnasal (medial, lateral), sublabial, transoral (transpharyngeal, transvestibular, transmandibular), transcervical (transcervical, transparotid, transmandibular, transmastoid), and type C and D infratemporal approaches. Neurovascular and musculoskeletal structures encountered were analyzed. A navigation-based quantification of working volume and exposure of PPS compartments was accomplished. Transnasal approaches exposed the upper PPS, though with limited working volume. Transoral approaches exposed the middle PPS, minimizing neurovascular structures crossed. Only transcervical and skull base approaches exposed the entire PPS exposing several neurovascular structures. A tentative systematization of the surgical approach(es) to PPS in relation to different targets is provided: unicompartmental resection can be performed with a single, conservative access, whereas multicompartmental dissections frequently require a wider or multiportal approach.

### References

- [1] Beswick et al. (2012) Minimally invasive surgery for parapharyngeal space tumors. *Laryngoscope* 122(5):1072-8.
- [2] Paderno et al. (2015) Recent advances in surgical management of parapharyngeal space tumors. *Curr Opin Otolaryngol Head Neck Surg* 23(2):83-90.

### Key words

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Parapharyngeal space, surgery.