O-4-1

Complications of the different types of transoral approaches for pathologies of the craniocervical junction.

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Background: The risks described in transoral approaches we find: vertebral artery injury, damage to the Eustachian tube orifice, hypoglossal nerve injury, dura mater injury, dysphagia, nasal reflux, dehiscence of the wound in the palate and pharynx, velopalatine insufficiency, airway and tongue edema, infection and pharyngeal hemorrhage.

Research questions: What are the complications of transoral approaches in patients with cervical spine pathology?

Design: Cross-sectional, retrospective cohort study.

Methods: 25 cases with various cervical spine pathologies, patients operated transorally in a single spine surgery treatment center between 2005 and 2023. The following were evaluated: age, diagnosis, type of procedure (percutaneous, transoral endoscopic, extended transoral), performance of velotomy, type of pharyngeal approach (midline or Harms-Schmelzle), pre- and postoperative Frankel classification, anterior and/or posterior instrumentation and complications associated with the procedure performed.

Results: A review of 25 patients who underwent transoral surgery, 16 were women, 9 men. Average age of 23.9 years. Average follow-up period of 5.53 years (2 months to 14 years). 39 procedures were performed, 1 transoral endoscopic decompression, 6 percutaneous biopsies, 2 vertebroplasties, 9 drug injection, 16 transoral approaches and 5 extended transoral approaches with medial labiomandibular glossotomy. 13 complications were obtained, the 2 most frequent complications being soft palate dehiscence and velopalatine insufficiency. No complications were found in patients with transoral endoscopic decompression or transoral drug injection.

Discussion: Patients with previous neurological deficit had more complications. The approaches associated with the use of osteosynthesis material presented more complications.

Fig. 1

Table No. 1. No. Type of approach

Transoral endoscopic	Percutaneous			Transoral approach			Transoral extended with glosotomy and median mandibulotomy approach		
	Biopsy	Vertebroplasty	Drug inyection	Midline pharyngeal approach	Harms-Schmelzle approach	Velotomy	Midline pharyngeal approach	Harms-Schmelzle approach	Velotomy
1	6	2	9	6	10	12	2	3	2
1	17			16			5		
39									

Fig. 2

Table No. 2. Complications by approach type

	Transoral endoscopic	Percutaneous			Transoral approach	Transoral extended with glosotomy and median mandibulotomy approach	Total
		Biopsy	Vertebroplasty	Drug inyection			
Worsening of neurological symptoms					1		1
Cement extravasation			1				1
Soft palate dehiscence					2	1	3
Osteosynthesis material exposure						1	1
Velopalatine insufficiency					3		3
Durotomy					1	1	2
Infection						1	1
Epidural hematoma		1					1