



Endoscopic Endonasal Surgery for ClivaChordomas. Case series

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Background

Skull base chordomas are rare tumors, with a prevalence in males and an annual incidence of 0.04-0.08 per 100,000 individuals. The standard treatment involves surgical removal and radiosurgery. Complete surgical resection of the tumor is the most important factor for achieving a 5-year progression-free survival, with a success rate of 78% based on published studies.

Objective

The authors present a series of patients with clival chordoma treated at a single institution.

Material and methods

Vital patients' data, along with postoperative radiation history and follow-up information, were systematically collected.

Patient's Data (n=19)

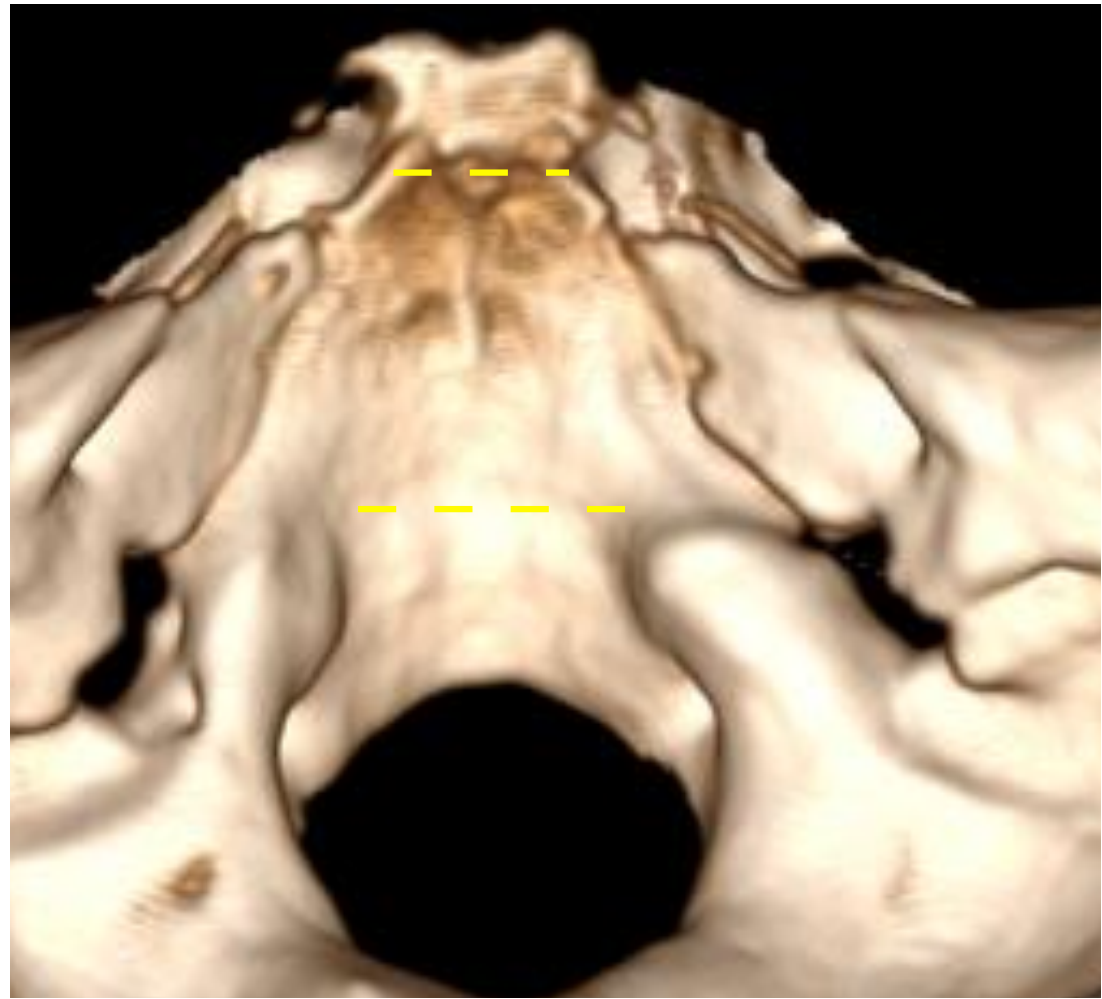
- Males – 7(36,8%) Females – 12(63,2%)
- Patient's age was between 23 and 74 years old
- Medium age was 52,4 years
- All surgeries were purely endoscopic
- Period of surgeries between 2011 and 2024 years

Sequence and staging of surgeries (n=19)

Sequence	N	%
Primary	14	73,7 %
Secondary (Rec.)	3	15,7 %
Two stage surgery	1	5,3 %
Secondary recurrence*	1	5,3 %

* - Time to second recurrence was 3 years.

Tumor's localization & volume



Tumor volume

- Min - 2,18 cm³ (*)
- Max - 144,9 cm³
- Mean - 36,3 cm³

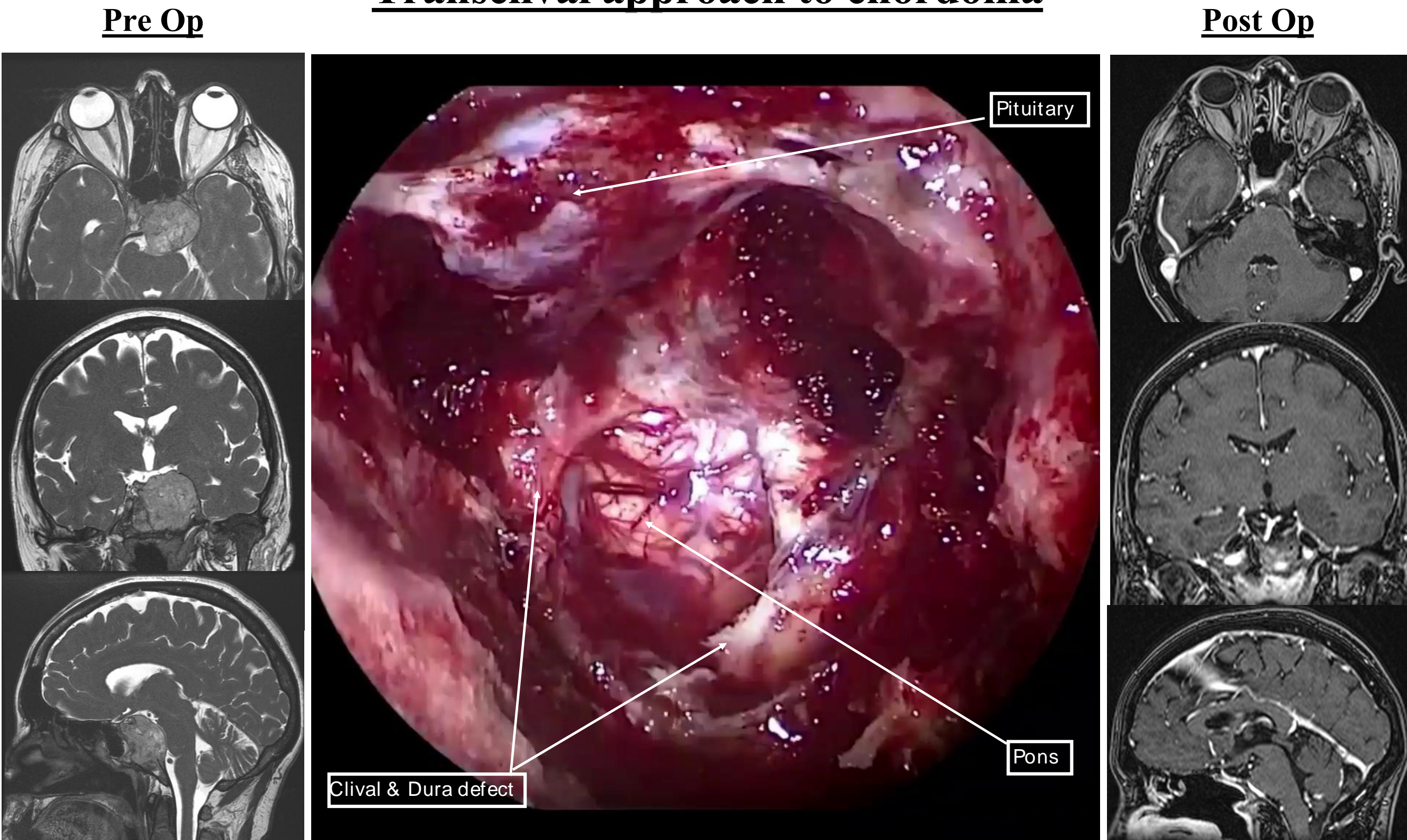


Extent of resection (n=19)

Extent of resection	N	%
GTR	8	42,1 %
STR	6	31,6 %
Partial	4	21 %
Biopsy	1	5,3 %

6-patients underwent subsequent conventional stereotactic radiotherapy, while 3-patients received a Proton beam.

Transclival approach to chordoma



Complications (n=19)

Complications	N	%
Basilar Artery injury	1	5,3 %
CSF-leak	4	21 %
Meningitis	2	10,5 %
Extensive blood loss	1	5,3 %
Swallowing impairment	1	5,3 %
6 CN palsy	2(1*)	11 %
DVT	2	11 %

1* - in 1 patient 6 CN palsy was transient

Mortality rate - 1 (5,3%)

Follow-up (n=19)

- One (5,3%) patient is currently under observation without post-surgical irradiation.
- 9 (47,3%) patients are alive and free from disease progression.
- 3 (15,7%) patients passed away due to tumor progression, occurring between 12 to 18 months after recurrence was detected.
- One (5,3%) patient passed away during the COVID-19 pandemic.
- The median progression-free survival in our cohort was 31 months, with a maximum of 72 months.

Conclusions

- Endoscopic endonasal surgery is considered the preferred method, particularly for tumors located along the midline.
- Gross total resection is a key factor in predicting progression-free survival.
- The learning curve for this technique remains steep, and achieving long-term treatment outcomes necessitates ongoing follow-up and the development of advanced skills and experience.

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