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FEASIBILITY OF COMPARTMENTAL ENDOSCOPIC CRANIOFACIAL RESECTION FOR SINONASAL MALIGNANCY WITH ANTERIOR SKULL BASE INVOLVEMENT WITH NOVEL RECONSTRUCTION METHOD

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Results

S.No	Age/ Sex	Biopsy	NACT	Compartmental Endoscopic CFR	Reconstruction	Adjuvant treatment	Follow Up
1	54/F	ENB Hyams III	No	Unilateral	Yes	Adjuvant RT	Disease free at 1 year
2	37/M	ENB Hyams III	Yes (Carboplatin+ Etoposide)	Bilateral	Yes	Adjuvant RT	Disease free at 6 months
3	58/M	Squamous cell carcinoma	No	Unilateral	Yes	Adjuvant CTRT	Disease free at 3 months

Conclusion

The advantage of this technique are manifold—1) Ensures complete resection of an involved compartment as most patients present either with incomplete removal or with polypectomy where disease localization is difficult 2) Unilateral resection allows olfaction preservation and reduced surgical morbidity 3) Our simple 2 layers reconstruction method provides effective closure even in absence of vascularised flap 4) Good reproducibility and standardization of the surgical technique

References

- ❖ Yuen AP, Fung CF, Hung KN. Endoscopic cranionasal resection of anterior skull base tumor. *Am J Otolaryngol*. 1997 Nov–Dec;18(6):431–433.
- ❖ Borg A, Kirkman M, Choi D. Endoscopic endonasal anterior skull base surgery: a systematic review of complications over the past 65 years. *World Neurosurg* 2016;95:383–91.

Reconstruction

Layering with fascia-fat-fascia +/-nasoseptal flap
First layer comprised of fascia lata (underlay), glue was applied all around the border, and boundary (junction of fascia & dura) was sealed with strips of fat all around.

The second layer consisted of fascia (overlay) to cover the whole assembly (first layer- fat-bone junction).
Nasoseptal flap was used as the third layer, depending on its availability post-resection.

Methodology

3 Cases of sinonasal malignancy with anterior skull base involvement underwent U/L or B/L compartmental endoscopic CFR in a tertiary care centre in India from february 2019 to October 2020

Compartmental Endo CFR

Unilateral compartmental Endo CFR consisted of resection from the septum to lamina papyracea, removal of the ipsilateral cribriform plate, and ethmoid roof.

Bilateral compartmental Endo CFR resection consisted of resection from one lamina to contralateral lamina papyracea, removal of the entire cribriform plate, and bilateral ethmoid roof.

U/L Endo CFR



Discussion

Endoscopic-assisted craniofacial resection was first described in the 1990s. More recently, purely endoscopic endonasal techniques have been used. The benefits of an endoscopic approach include superior visualization, decreased operative time, reduced length of hospital stay, less postoperative pain, and avoidance of craniotomy and facial incision. It has demonstrated similar oncologic control while reducing postoperative morbidity and mortality over traditional transcranial approaches.

Postoperative CSF leak is a major concern. There are a variety of repair techniques mentioned in the literature with a CSF leak rate of around 5 to 9 %. Our simple 2-layer technique provides a secure seal even in absence of a vascularized flap. Because few cases have been done successfully, we advocate this procedure in forthcoming cases as we believe that it is a promising and oncological safe method

Objective

- ❖ To ensure complete resection by defining guidelines for stepwise resection and to reduce the surgical morbidity in cases of unilateral limited disease without compromising oncological outcome.
- ❖ To present a simple repair technique with a safe outcome even in absence of a vascularized flap.

B/L Compartmental Endoscopic CFR resection

