



MORBIDITY OF ENDOSCOPIC SURGERY AND NON-SURGICAL TREATMENTS FOR MALIGNANT NASOETHMOIDAL TUMORS: MULTICENTRIC RETROSPECTIVE STUDY ON 940 CASES



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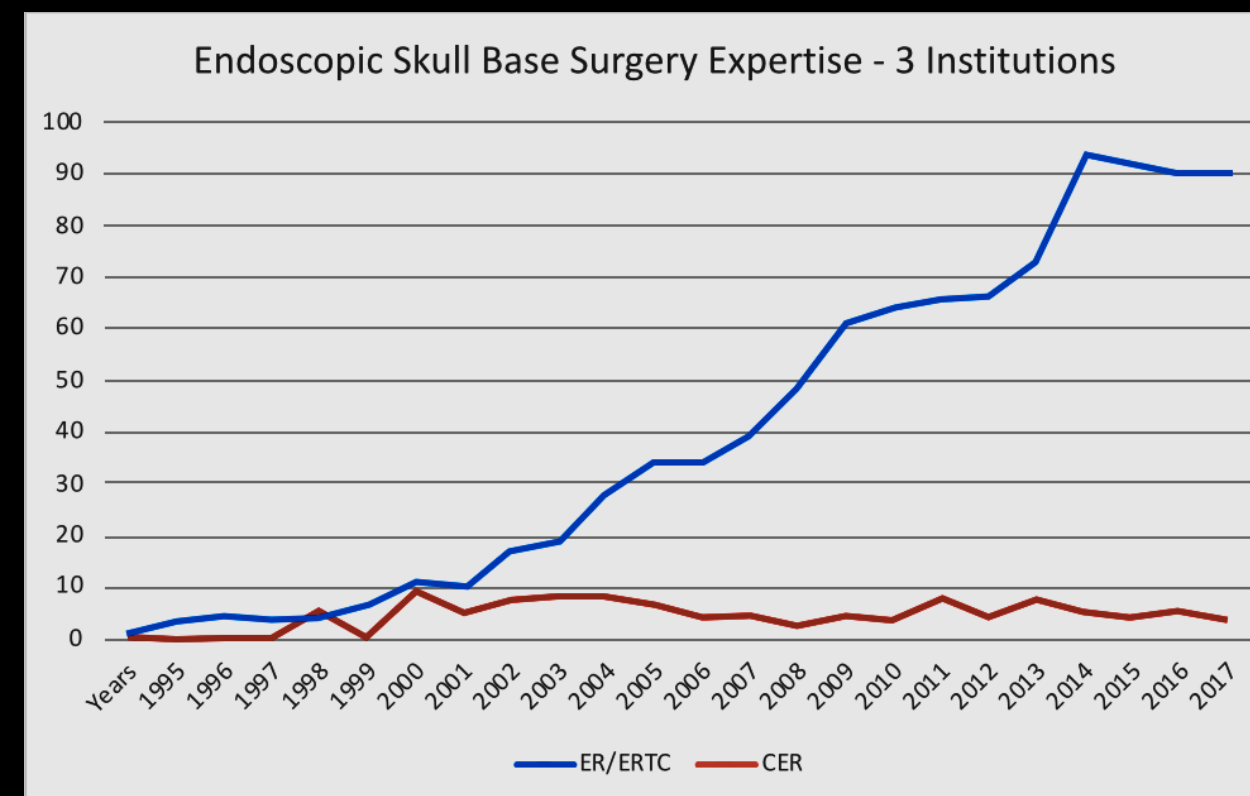
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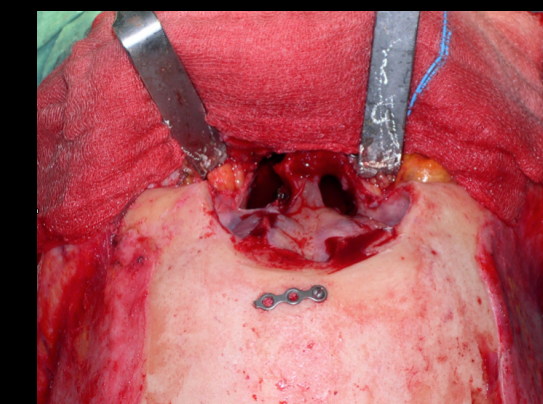
Background & Aim

Over the past 25 years the introduction of endonasal endoscopic surgical approaches and intensity modulated radiotherapy, revolutionized the treatment of sinonasal malignancies. Both these techniques recorded a substantial reduction in treatment morbidity paralleled by superior oncologic results in comparison with open craniofacial resections and 3D conformational radiotherapy. The aim of this multicentric, international, retrospective study is to evaluate a large multicentric series of patients to assess the complications associated with endoscopic surgery and non-surgical treatments (neoadjuvant and/or adjuvant) for malignant sinonasal tumors.

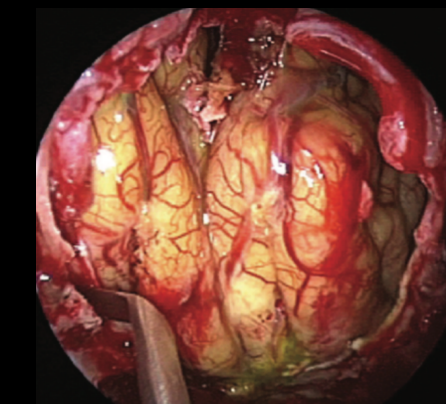


Material and methods

A large cohort of consecutive patients with nasoethmoidal malignancies treated with curative intent with endoscopic or endoscopic-assisted surgery at 3 referral centers with uniform management standards (ASST Spedali Civili Brescia - Italy, Hospital Circolo di Varese - Italy, Lariboisière Hospital Paris - France) was studied. Neo- and/or adjuvant (chemo)radiotherapy was administered according to histology and pathological report. Demographics, treatment characteristics and complications were retrieved. Collected data were analyzed with univariate and multivariate statistics to assess independent predictors of complications.



Craniofacial resection



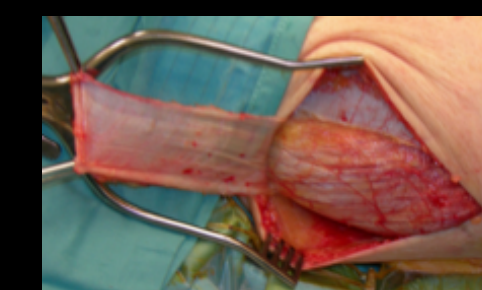
Endoscopic transnasal craniotomy

Results

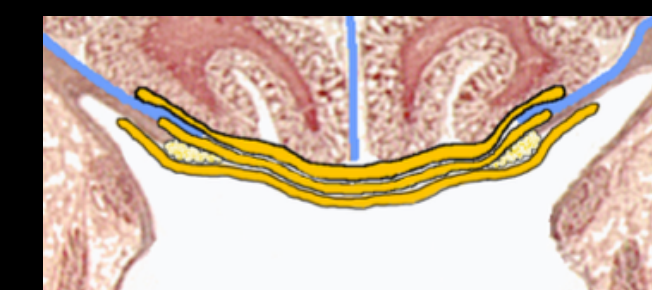
Nine hundred and forty patients were included, 643 males (68%) and 297 females (32%). Mean age 61 years. A total of 225 complications were identified in 187 patients (19.9%): cerebrospinal fluid (CSF) leak (3,5%), mucocoele (2%), surgical site bleeding (2%), epiphora (2%), radionecrosis (2%), visual disturbances (1%), reconstruction donor site morbidity (1%), brain abscess (0.8%), pneumocephalus (0.8%), meningitis (1%), other cerebral complications (0.8%), other medical complications (5%). Treatment-related mortality was 0.5% (2 patients died during the early postoperative period, 2 after radiotherapy). Variables independently associated with complications at multivariate analysis were: male gender, advanced stage neoplasm, dural resection, cranioendoscopic or multiportal resection, duraplasty with grafts other than ileotibial tract, dural repair with multilayer technique with less than 3 layers, and preoperative comorbidities.

Conclusions

Our study shows that modern treatments for sinonasal malignancies are associated with limited morbidity and treatment-related mortality. CSF leak and radionecrosis, although rare, remain the most severe complications, and should be further addressed by future research efforts.



Harvesting of the ileotibial tract



Three layers skull base reconstruction with ileotibial tract after endoscopic transnasal craniotomy