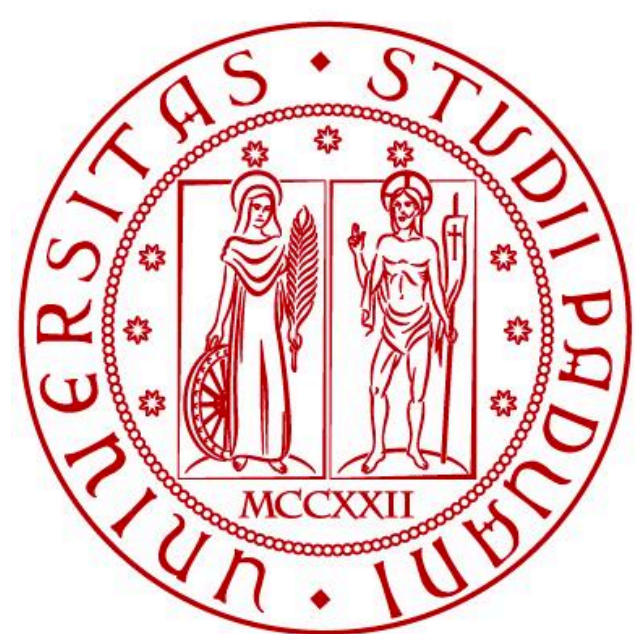


PROGNOSTIC FACTORS OF SINONASAL MALIGNANCIES UNDERGOING TRANSNASAL ENDOSCOPIC RESECTION: A 3-INSTITUTIONAL COLLABORATIVE STUDY ON 940 PATIENTS



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Marco Ferrari¹; Davide Mattavelli, MD, PhD²; Michele Tomasoni, MD²; Paolo Battaglia, MD³; Mario Turri-Zanoni, MD³; Alberto Schreiber, MD, PhD²; Vittorio Rampinelli, MD²; Tommaso Gualtieri, MD²; Alberto Daniele Arosio, MD³; Giacomo Bertazzoni, MD⁴; Andrea Bolzoni Villaret, MD²; Maurizio Bignami, MD²; Cesare Piazza, MD²; Philippe Herman, MD⁵; Paolo Castelnuovo, MD²; Piero Nicolai, MD¹

¹Section of Otorhinolaryngology - Head and Neck Surgery, Department of Neurosciences, University of Padua, Padua, Italy

²Unit of Otorhinolaryngology - Head and Neck Surgery, University of Brescia, Brescia, Italy

³Unit of Otorhinolaryngology - Head and Neck Surgery, University of Insubria, Varese, Italy

⁴Section of Otorhinolaryngology, Hospital of Cremona, Cremona, Italy

⁵Department of Head and Neck Surgery, Lariboisière University Hospital, Paris, France

Correspondence to: Marco Ferrari, MD; University of Padua (Italy); email: marco.ferrari@unipd.it



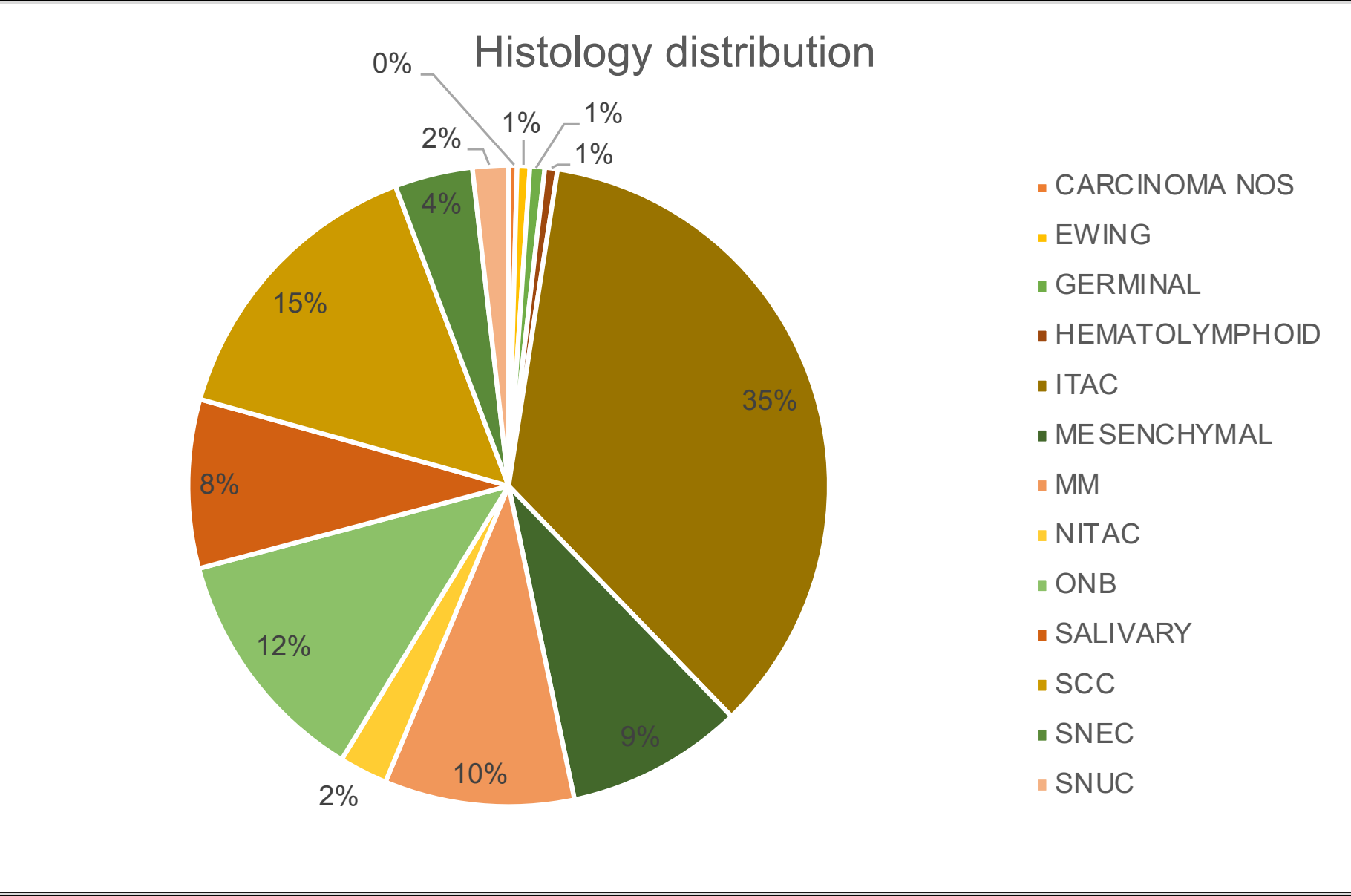
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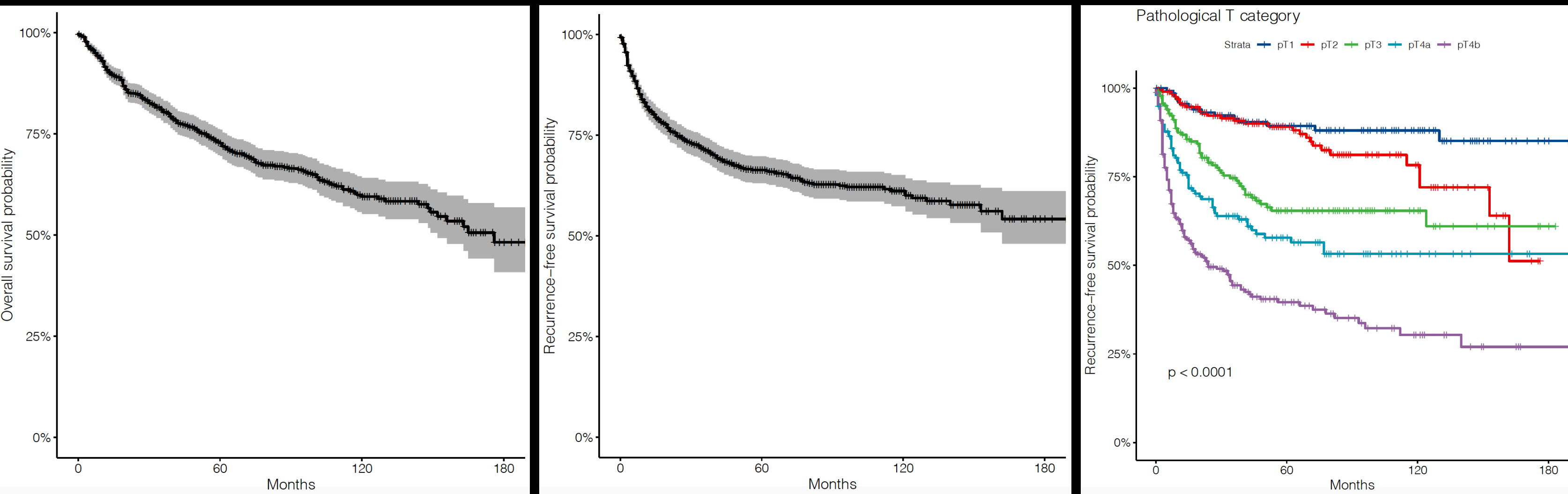
Background & Aim

Sinonasal malignancies are rare tumors characterized by a remarkable histologic variability. These characteristics contribute to make several phases of the diagnostic work-up and treatment a challenge for physicians dealing with sinonasal cancer. The present study is aimed at identifying the most relevant prognosticators in the largest series of patients treated endoscopically currently available.



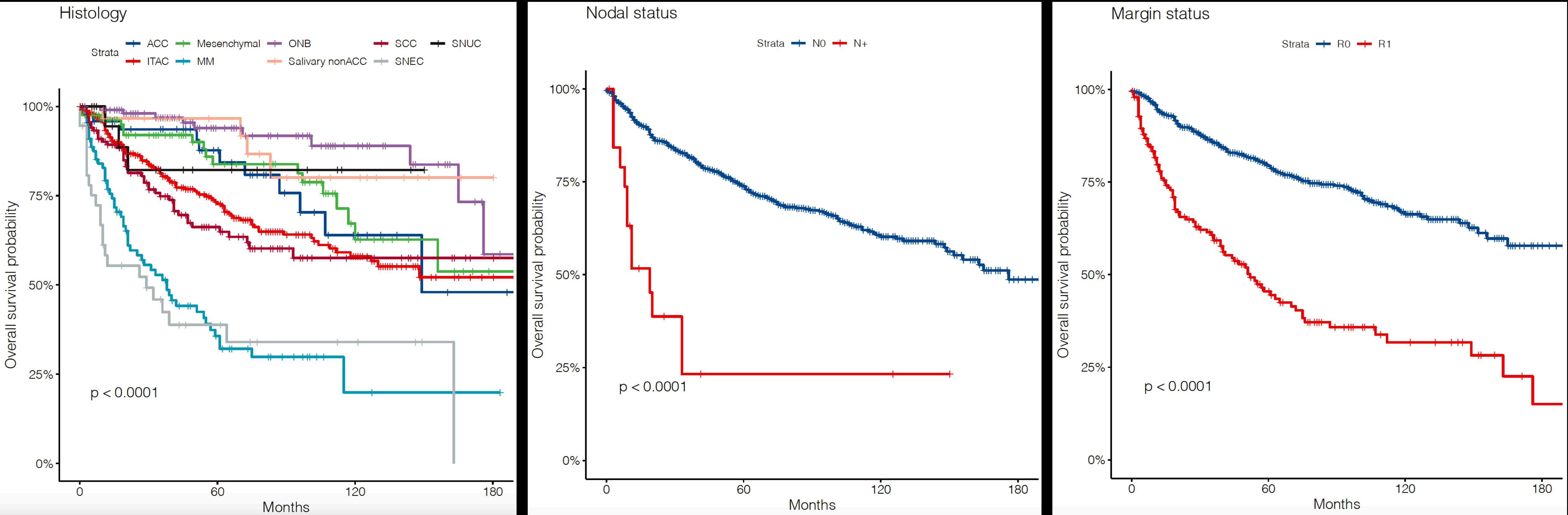
Material and methods

All patients affected by a sinonasal malignancy and treated at the University of Brescia, Insubria-Varese, and Paris through a purely endoscopic or endoscopic-assisted surgery were included in the analysis. For categoric variables, a univariate Kaplan-Meier analysis was performed with the log-rank test with the aim to identify factors significantly associated with overall survival, disease-specific survival, recurrence-free survival, local recurrence-free survival, regional recurrence-free survival, and distant recurrence-free survival. For continuous variables, a univariate Cox model was run considering the aforementioned outcomes. A multivariate analysis was performed through the Cox proportional hazard risk model by selecting the factors applying significance at univariate analysis (with the maximum of includible variables corresponding to 10% of the events).



Results

The study included 940 patients. The multivariate model analysis of overall survival was based on 17 factors. The following variables resulted significantly negatively with a decrease in terms of overall survival: advanced age (odds-ratio [OR]: 1.05; p<0.0001), presence of nodal metastasis at presentation (OR: 3.46; p=0.01), need to resect the periorbit (OR: 1.57; p=0.04), involvement of margins (OR: 1.56; p=0.006), perineural invasion (OR: 2.71; p=0.002), local recurrence during the follow-up (OR: 1.77; p<0.0001), distant recurrence during the follow-up (OR: 3.24; p<0.0001). Treatment schedules including induction chemotherapy resulted a protective factor independently of other factors included in the model. Histology had an impact on all outcomes. Other outcomes analyzed in the study were similarly associated with the aforementioned prognosticators.



Conclusions

Patients affected by a sinonasal cancer with advanced age, nodal metastasis at presentation, and/or need to resect the periorbit have a reduced overall survival regardless of other patient-, tumor-, and treatment-related factors. Endoscopic resection of sinonasal cancers should be planned to achieve clear margins, as margin involvement implies a reduction in overall survival independently of other factors. As emerging in other head and neck cancers, perineural invasion was found to have an independent role on prognosis. The local and/or distant failure of treatment predict a poor outcome. As already demonstrated in specific histologies (e.g. sinonasal undifferentiated carcinoma) treatment protocols including induction chemotherapy, when applicable, confer to patients a higher chance to survive.