Survival in Middle Ear Malignancy: A population-based analysis using SEER database

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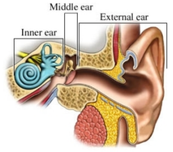
Background

- The incidence of middle ear malignancy is approximately 0.03% to 0.8%. Specifically, squamous cell carcinoma (SCCA) of the middle ear accounts for 1.5% of all malignant tumors of the ear. The etiological factors are unknown, but there are reports that middle ear carcinoma may be related to chronic otitis media leading to metaplasia of the middle ear mucosa



- Because of the rarity of middle ear malignancies, this study attempts to evaluate the population-based survival data, treatments offered and understand the relationship of sex, race, and type of tumor to survival.
- This report aims to update the published reports of the patient demographics and survival information of these rare malignancies of the middle ear and to determine if there has been any survival-related change in the last 10 years in patients with middle ear malignancies

Methods

- The SEER database (https://seer.cancer.gov) from 1973 to 2016 was queried for malignant neoplasms of the middle ear (site code C 30.1) and from it patient demographic data (age, sex, race), stage of cancer (when available), treatment, and survival was extracted.
- We evaluated patient's age, sex, race, tumor type, stage (local, regional and distant), and treatment and their relationship to survival.
- For further analysis, the histological subtypes were categorized into 4 groups: squamous cell carcinoma, adenocarcinoma, other carcinoma, and non-carcinoma. The histologic subtypes that were classified as "other carcinoma" were malignant entities of epithelial-tissue origin that were not SCCA or adenocarcinoma. lower caps for the pathologic diagnosis
- SPSS was used to conduct 5-year survival analysis. Significance was determined using the Chi-square test, Log-rank (Mantel-Cox) test, and the Two proportion Z-test.

Results

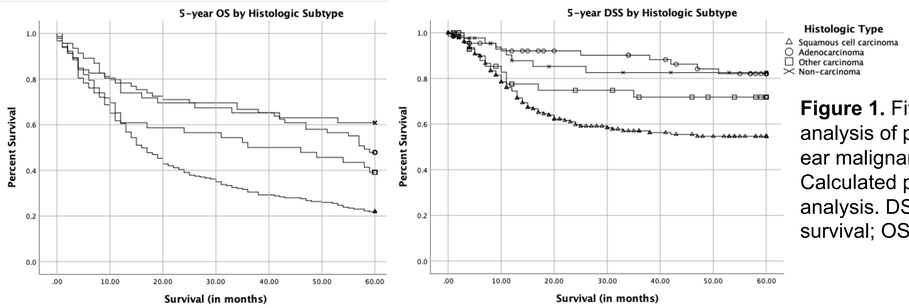


Figure 1. Five-year survival analysis of patients with a middle ear malignancy, by histologic type. Calculated per Kaplan-Meier analysis. DSS, disease-specific survival; OS, overall survival.

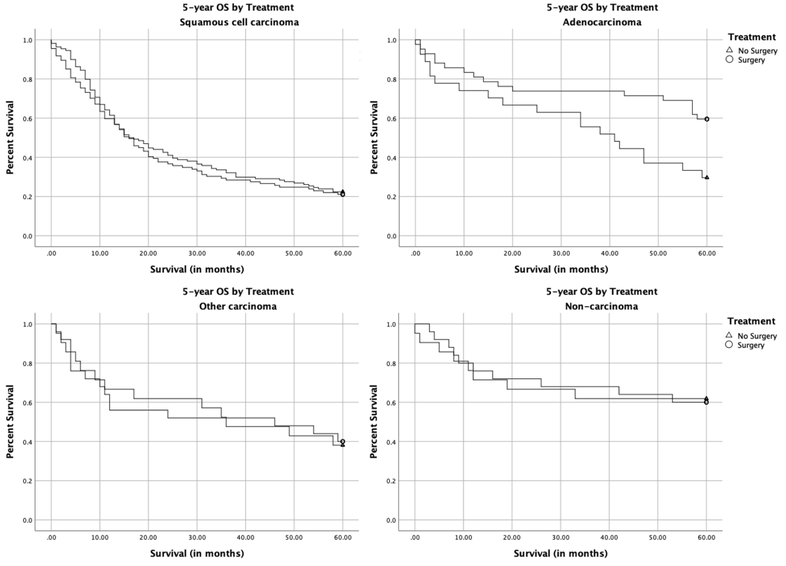


Figure 2. Five-year survival analysis of patients with a middle ear malignancy of squamous cell carcinoma, adenocarcinoma, other carcinoma, and noncarcinoma subtypes, by treatment modality. Calculated per Kaplan-Meier analysis. OS, overall survival.

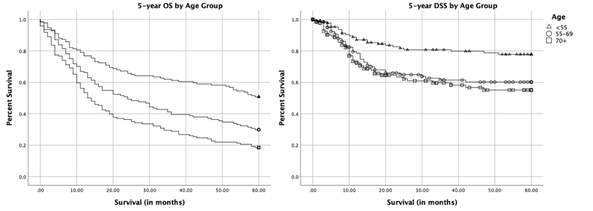


Figure 3. Five-year survival analysis of patients with a middle ear malignancy, by age group. Calculated per Kaplan-Meier analysis. DSS, disease-specific survival; OS, overall survival.

Conclusions

- The present study confirms the conclusions of Gurgel et al that SCCA and worsening extent of disease are poor prognostic factors, while surgery provides improved outcomes.
- Males with adenocarcinoma had an improved 5-year survival as compared with females.
- Patients with adenocarcinoma benefited the most from surgery as compared with other histologic subtypes and had a significantly greater 5-year survival rate.

References

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