Parotid Incidentalomas: A Clinicopathologic Review Over 5 Decades

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BACKGROUND

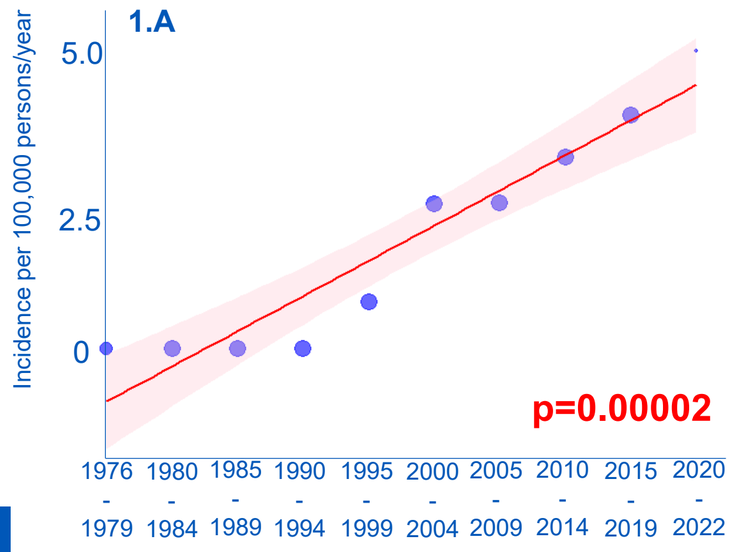
- Both benign and malignant salivary gland tumors increasing in incidence. 2-4
- Parotid "incidentalomas", have been shown to be increasing in incidence and constitute a higher percentage of patient presentations in more recent years5,6
- We aimed to identify the incidence, characteristics, imaging modality and demographics for patients who presented with incidentally found parotid masses from the Rochester Epidemiology Project (REP) from 1976-2022.

METHODS

- Retrospective cohort study from 1976-2022
- Inclusion criteria: diagnostic code associated with parotid mass and presentation due to imaging findings
- Incidence was calculated per 100,000 persons/year, change in incidence was assessed using weighted linear regression
- Trend analysis for changes over time were done using Spearman rank correlation coefficient tests, Wilcoxon rank sum tests, and Kruskal-Wallis tests

RESULTS

Figure 1: Trend in Incidence Over Time



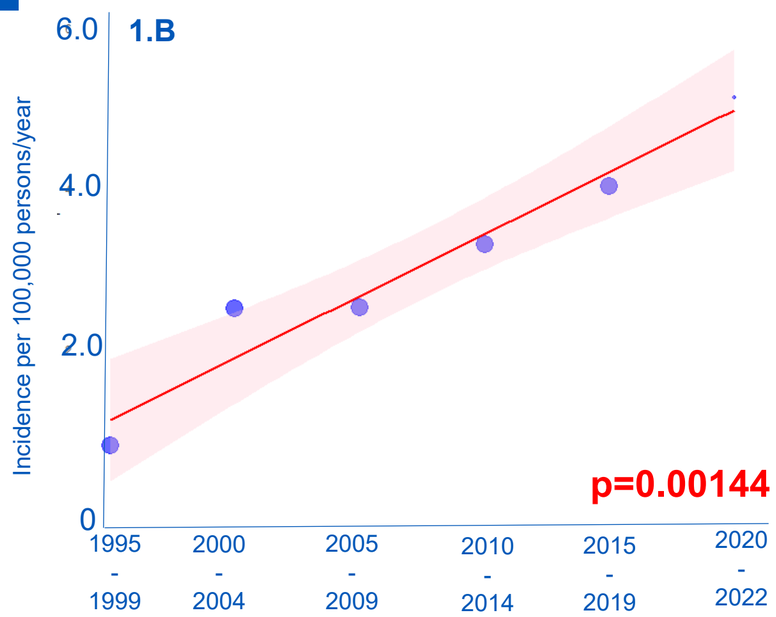
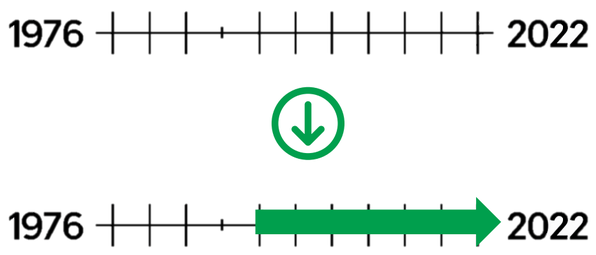


Figure 1.A: Incidence over time from 1976-2022, p=0.0002

Figure 1.B: Incidence over time constricted to 1995-2022, p=0.00144

Overall incidence of **1.72**/100,000 person-years



3.00/100,000 person-years

- 123 patients identified from 1976-2022
- 69% of tumors were located in the superficial lobe with a median tumor size of 1.65 cm
- 93% (n=98) of tumors were benign
- 42% of patients presenting due to MRI findings
- 54% of patients underwent fine-needle aspiration for diagnostic purposes
- 55% of patients underwent definitive surgical management

Figure 2: Reasons for Imaging

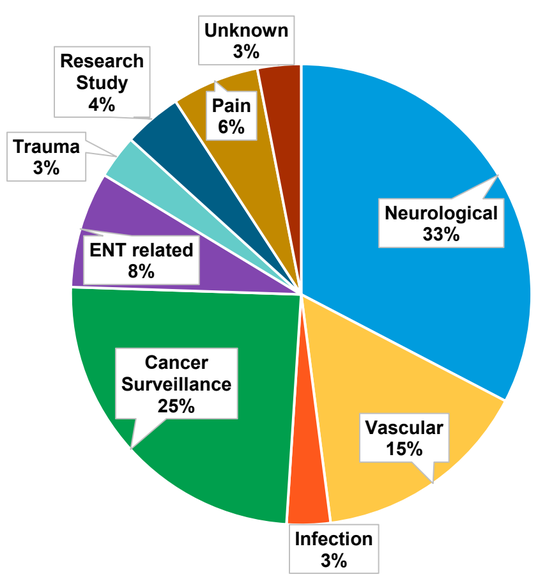


Figure 3: Imaging Modalities Over Time

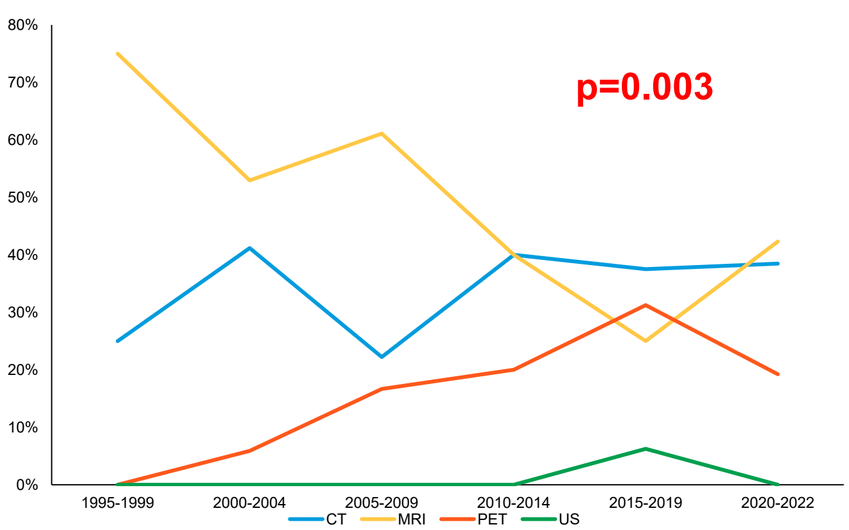


Figure 3: Percent use of imaging modality per 5-year time period

DISCUSSION

- In our cohort, there was a significant increase in the incidence of patients presenting with incidentally found parotid masses. This finding is similar to other studies in the literature but provides a longer study period and expands on imaging modality and reason for presentation.
- While MRI was the overall most common imaging modality, over time MRI use decreased and patients presenting due to PET findings significantly increased.
- The most common reason patients had an incidentally found parotid mass was due to undergoing imaging for neurologic reasons

CONCLUSIONS

- Incidence of parotid incidentalomas is significantly increasing
- Majority of patients have benign disease and can help direct patient counselling
- Compared to general distribution of parotid tumors, more deep lobe tumors found in this cohort overall
- A rise in the number of masses found on PET and CT scans may be overinflated due to availability of scans at a tertiary care center

Figure 4: Tumor Location Over Time

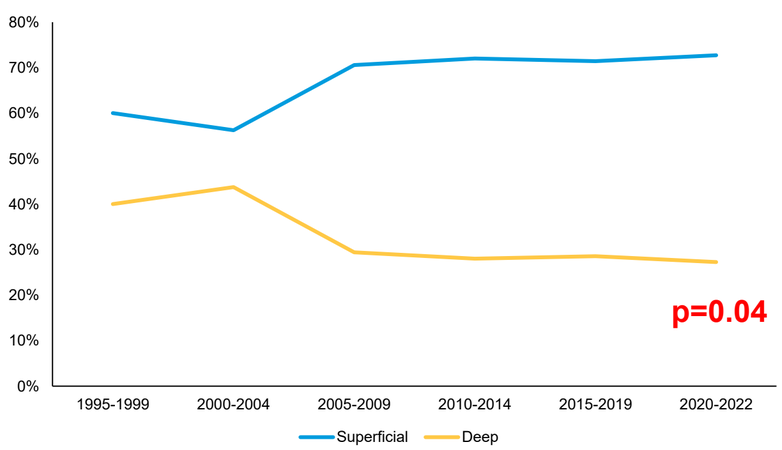


Figure 4 (Left): Percent of tumors found in superficial vs deep lobe per 5-year time period

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