

# Clinical and genomic characterisation of adenoid cystic carcinoma (ACC) of the respiratory tract and the major salivary gland

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## BACKGROUND

- ACC typically arises in the salivary glands (ACC-sal)
- Rarely, ACC arises in the respiratory tract (ACC-resp) accounting for <0.2% of primary lung cancers
- ACC-resp is often treated following lung cancer guidelines
- There is a need to better characterise the clinical disease course and outcomes with current standard of care therapies

## METHODS

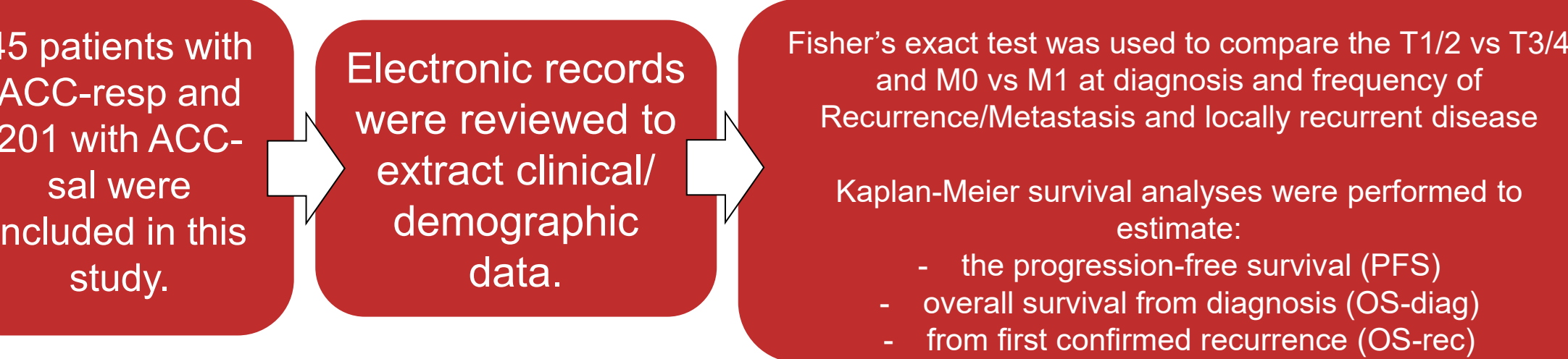
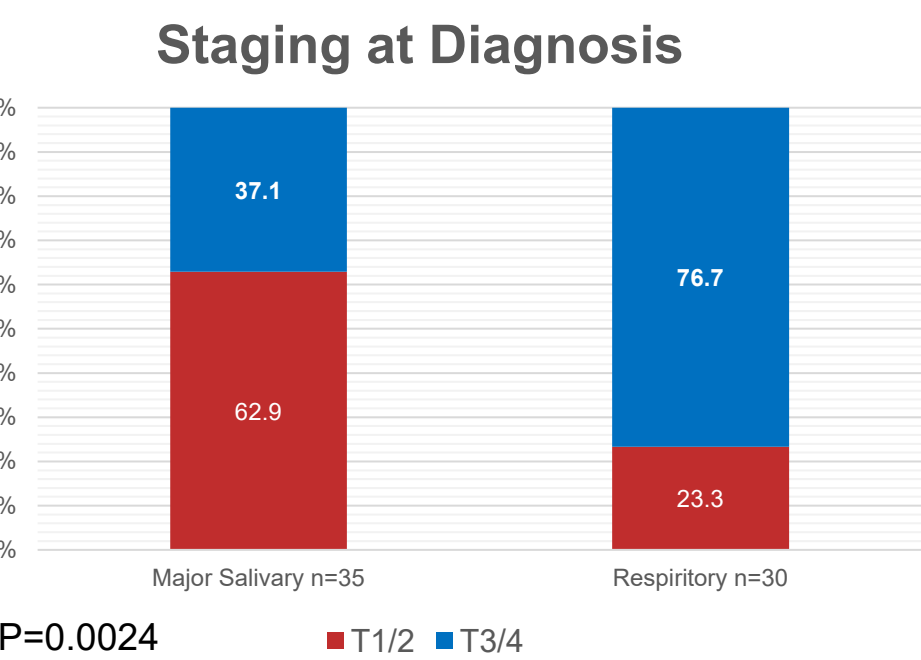


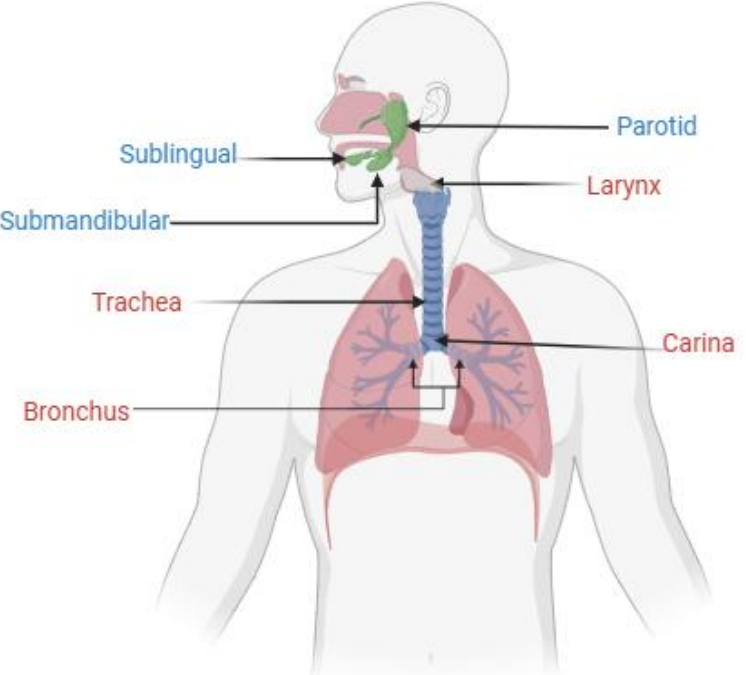
Figure 1 – Methodology Flow Chart

## DEMOGRAPHICS

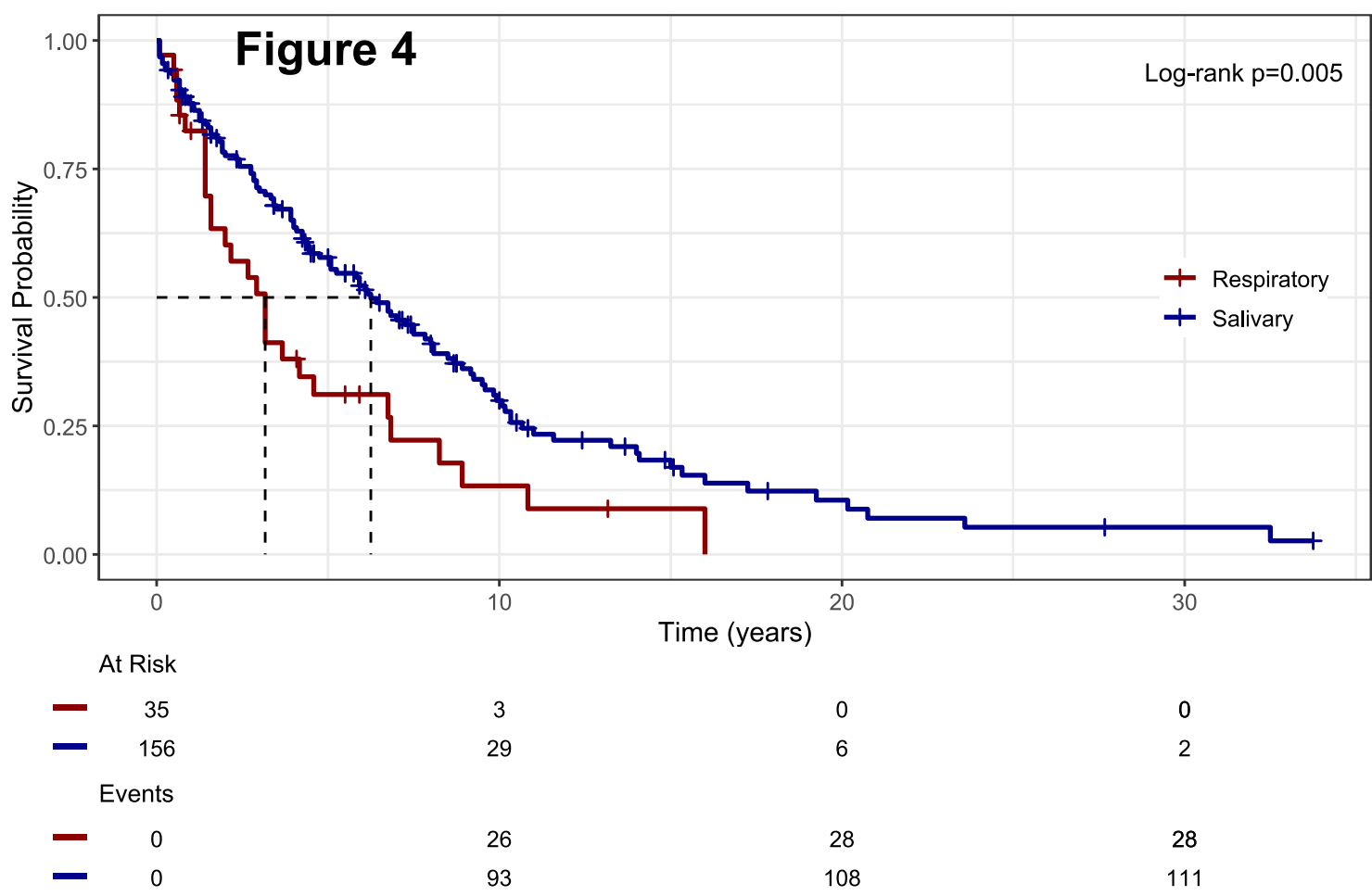
| Characteristics             | ACC-resp (n=45)                                                                  | ACC-sal (n=201)                                                                        |
|-----------------------------|----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
| Mean age at diagnosis (yrs) | 54 (24-80)                                                                       | 50 (17-83)                                                                             |
| Female, n (%)               | 26 (56.5%)                                                                       | 129 (64.2%)                                                                            |
| Primary site, n (%)         | Larynx 8 (17.8%)<br>Trachea 16 (35.6%)<br>Carina 1 (4.4%)<br>Bronchus 19 (42.2%) | Sublingual 9 (4.5%)<br>Submandibular 92 (45.7%)<br>Parotid 86 (42.8%)<br>NOS 14 (7.0%) |



**Table 1 –** Demographic and primary site characteristics of ACC-resp vs. ACC-sal  
**Figure 2 (left)**- Staging of ACC-resp and ACC-sal at diagnosis. P=0.0024.  
**Figure 3 (right)**- ACC-resp labelled in red, ACC-sal labelled in blue. Note NOS of ACC-sal could not be labelled. Created with Biorender.

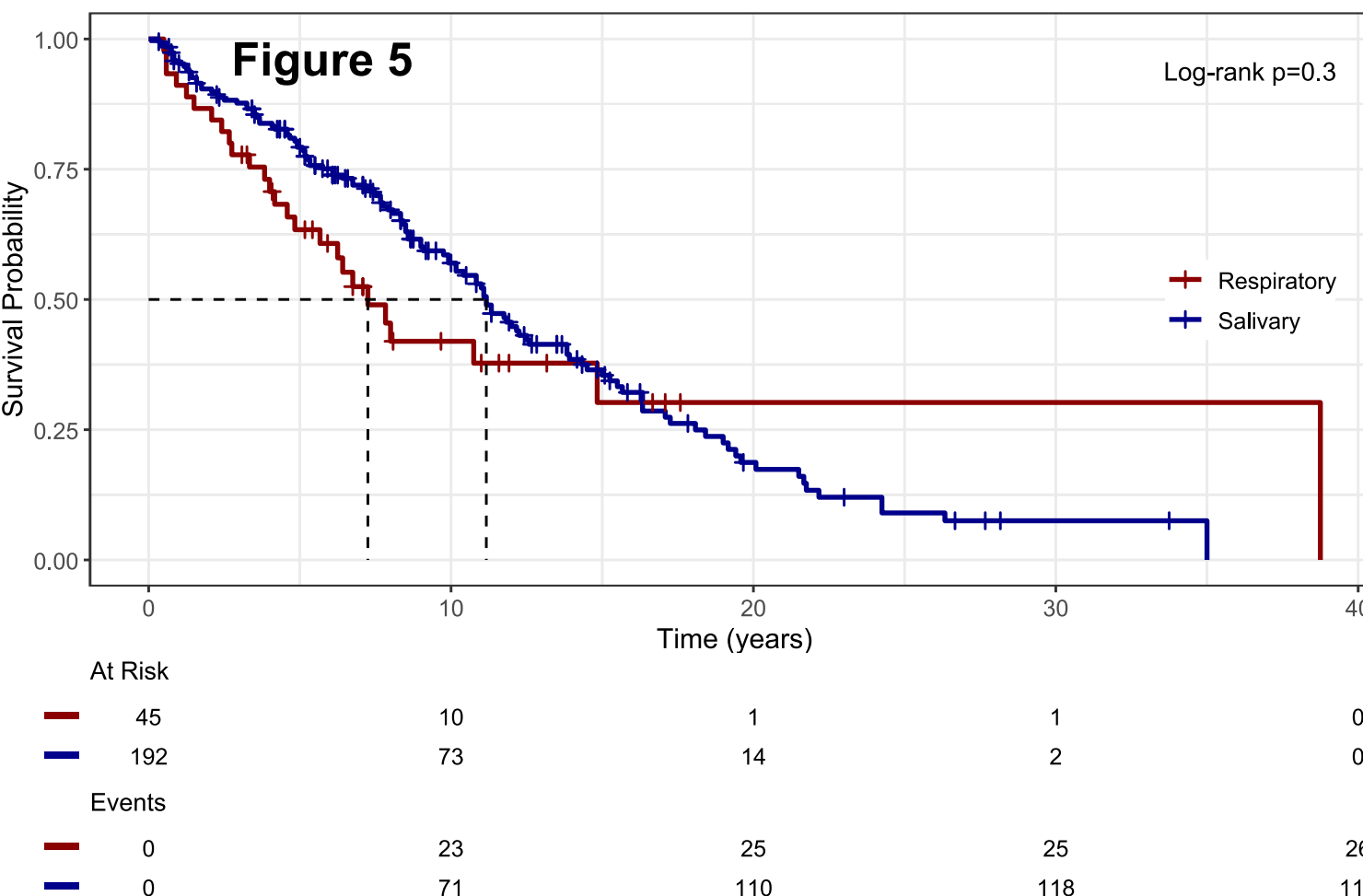


## SURVIVAL ANALYSIS



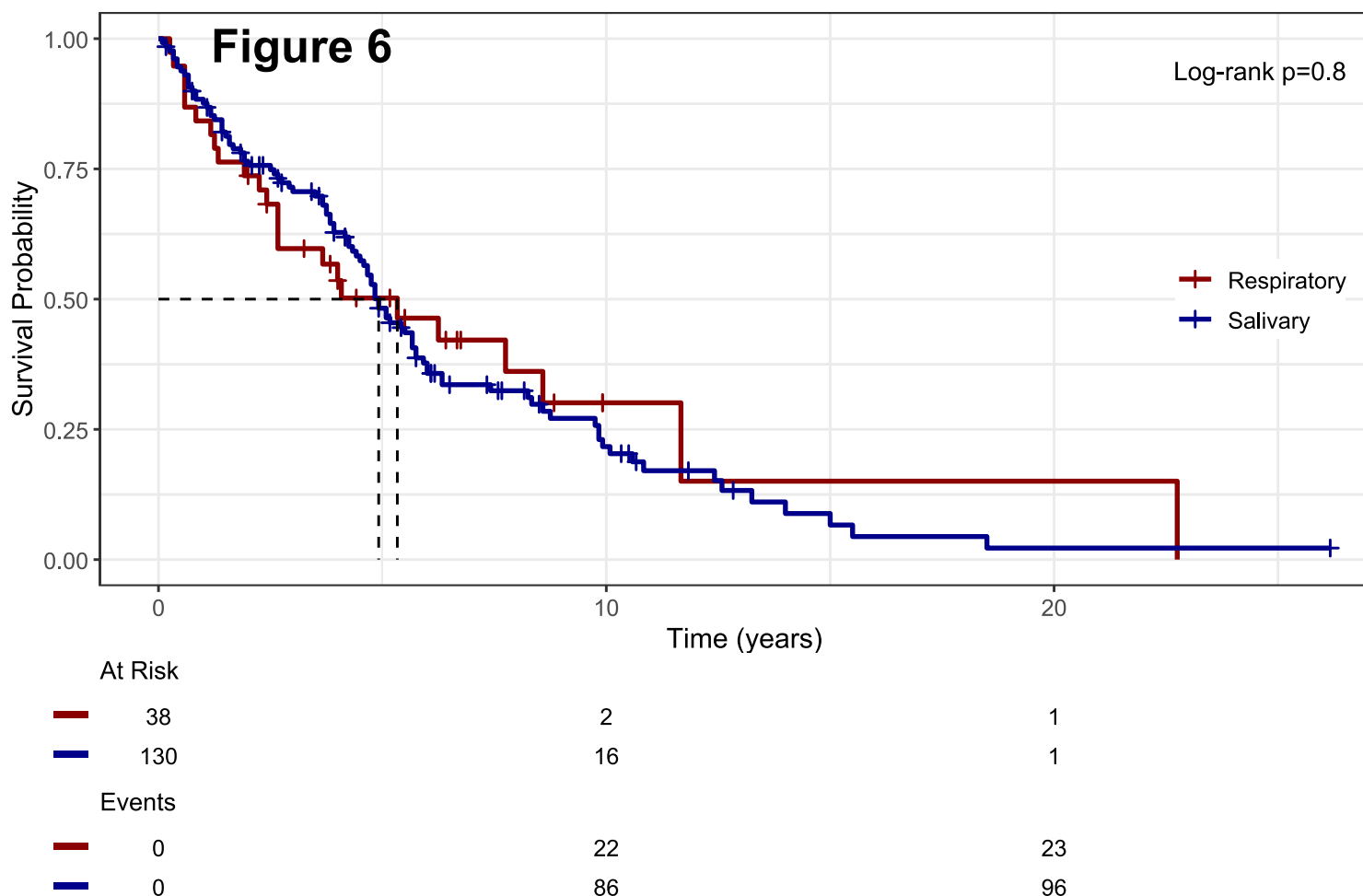
### Survival Analysis: Time to First Recurrence

Resp. median (months): 38  
Sal. median (months): 75  
Log-rank p-value: 0.005  
Gehan-Breslow-Wilcoxon p-value: 0.008



### Survival Analysis: Overall Survival from Diagnosis

Resp. median (years): 7.3  
Sal. Median (years): 11.2  
Log-rank p-value: 0.3  
Gehan-Breslow-Wilcoxon p-value: 0.0313

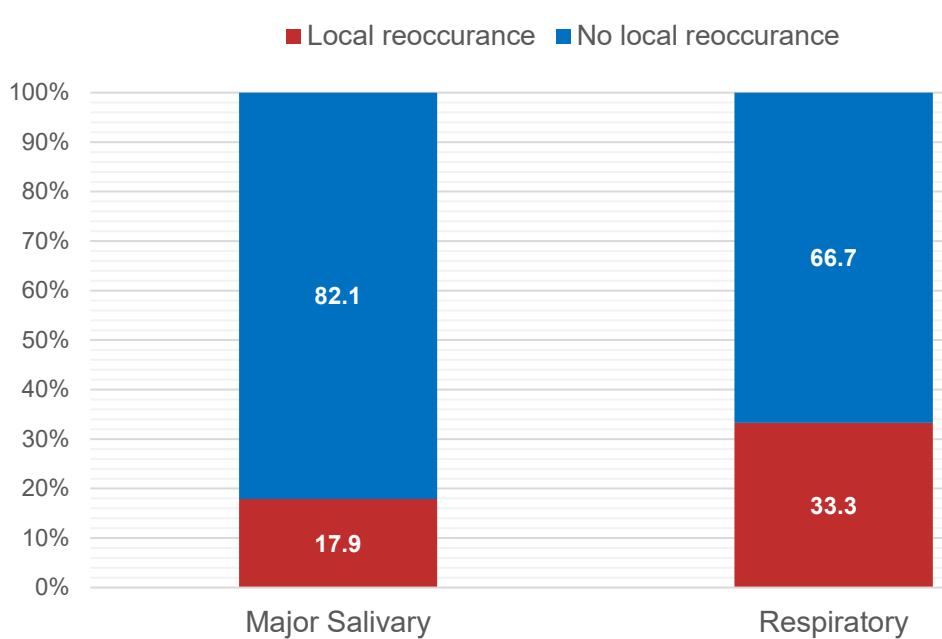


### Survival Analysis: Overall Survival from Recurrence

Resp. median (years): 5.3  
Sal. Median (years): 4.9  
Log-rank p-value: 0.8  
Gehan-Breslow-Wilcoxon p-value: 0.68

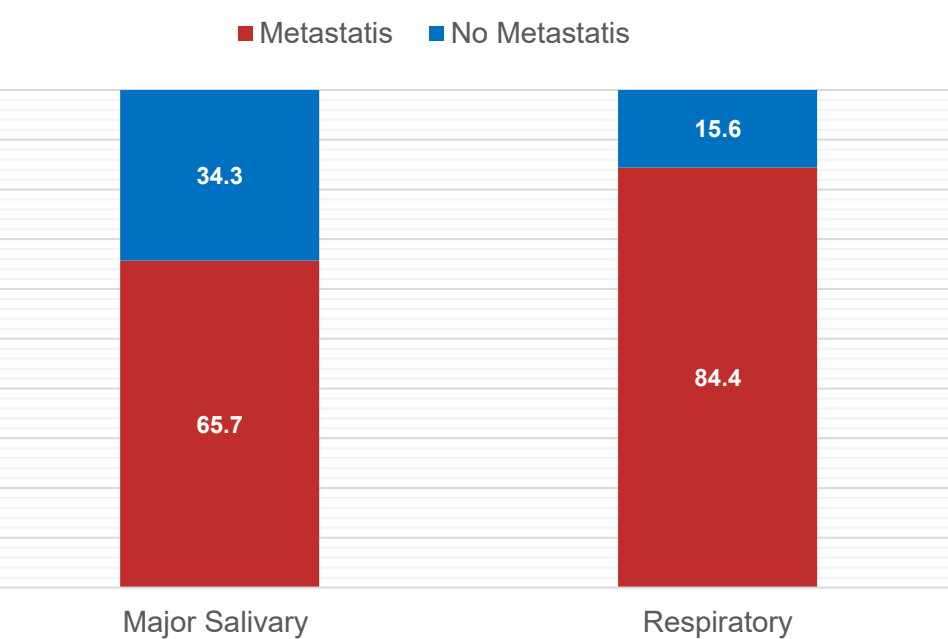
## FREQUENCY OF LOCAL AND DISTANT RECURRENCE

### Frequency of Locally Recurrent Disease



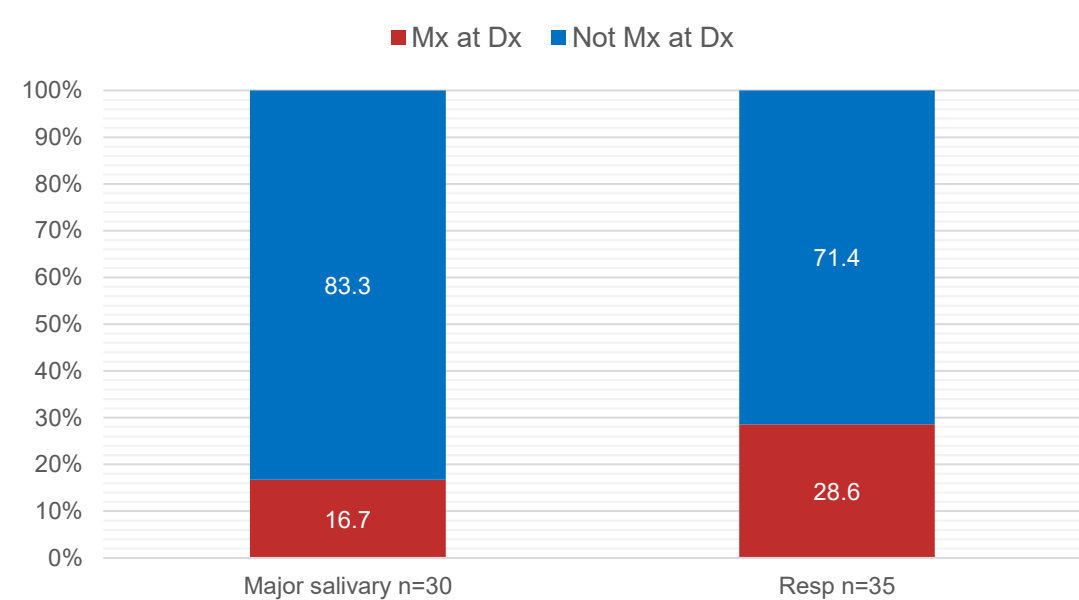
**Figure 7 (above)**– Local recurrence occurred in 33.3% (n=15) of respiratory ACC-resp compared with 17.9% (n=36) of ACC-sal (p=0.0261).

### Frequency of Recurrence/Metastasis



**Figure 8-** In ACC-resp, 84.4% (n=38) developed recurrent/metastatic disease compared with 65.7% (n=132) with ACC-sal (p= 0.0129).

### Metastatic at Diagnosis



**Figure 9 (left)**- 28.6% of ACC-resp was metastatic at diagnosis compared with 16.7% of ACC-sal. Analysis completed with Fisher's Exact test p=0.337

## TREATMENT OF SYSTEMIC DISEASE

In ACC-resp, 33.3% with recurrent/metastatic R/M disease were treated with systemic therapy, of which:

- 31% received Lenvatinib
- 31% received investigational therapy within a trial

## CONCLUSIONS

- ACC-resp more frequently presents with T3/4 disease
- ACC-resp has a higher rate of R/M disease than ACC-sal
- ACC-resp is associated with a shorter PFS and OS-diag
- These findings highlight the urgent need for earlier detection and more effective front-line therapies of ACC-resp