In this retrospective study from January 2001 to December 2011, 25 patients diagnosed with head and neck ACCs were assessed. Of the available records, 11 patients were referred for whole body FDG-PET/CT for either preoperative evaluation for initial and recurrent disease foci or disease staging for subsequent treatment strategy (3/11). Multiple imaging modalities (CT or MRI) in conjunction with PET/CT were also acquired. The study group included 8 female and 3 male patients, with a mean age of 47, range 33–65 years at time of diagnosis. A total of 15 tumor sites (primary and metastatic foci) were evaluated. Primary tumor sites included the following: • sinonasal cavity • base of tongue • nasolacrimal area • parotid gland • nasopharynx • paracervical area • skull base • tracheoesophageal junction Metastatic sites included bone, lung and liver. Histologically, tumors consisted of either cribriform, tubular, solid or mixed subtypes and categorized into histological grade. Sensitivity, specificity and accuracy were calculated.

Of the 11 patients referred for preoperative whole-body PET/CT, 81.8% (9/11) of patients had primary disease foci identified by PET/CT consisting of 11/12 tumor sites and 2 nodal sites with histological disease confirmed by biopsy and surgical pathology. Although none of the patients experienced postoperative tumor recurrence at their primary site of initial diagnosis, 22.2% (2/9) of patients had distant metastasis. In one patient with diffuse metastatic disease, a lesion involving the cavernous sinus that was detected on corresponding MRI was not appreciated on PET/CT; however PET/CT was consistent with MRI in detecting disease foci of the nasal dorsum and lung in the same patient. In one patient with base of the tongue ACC, PET/CT accurately detected cervical lymph nodes suspicious for malignancy that was not detected in a preoperative CT scan performed 2 months prior. In another case, a patient treated for nasal cavity ACC 2 years prior had what was considered evidence of disease recurrence on MRI, was not appreciated on PET/CT. Biopsy of this lesion showed it to be benign. Sensitivity, specificity and accuracy of preoperative whole-body PET/CT imaging was 90.9%, 100% and 91.7% respectively.

REFERENCES