

Transoral Robotic Surgery in the Diagnostic Algorithm for Head and Neck Carcinoma of Unknown Primary

Laura Mc Loughlin¹, Michael Walsh², Tom Moran^{1,2}, Fergal O'Duffy^{1,2,3}, Henry Zhang⁴, Megan Blom⁴, Ben Dixon^{4,5}, Matthew Magarry^{4,5}

1. Dept. of Otolaryngology Head & Neck Surgery, Mater Misericordiae University Hospital, Dublin, 2. Dept. of Otolaryngology Head & Neck Surgery, St. Vincents University Hospital, Dublin, 3. School of Medicine, University College Dublin, 4. Dept. of Head & Neck Surgery, 5. Peter McCollum Cancer Centre, Melbourne, Australia

Background:

The use of Transoral Robotic Surgery (TORS) lingual tonsillectomy in the diagnostic algorithm for head and neck carcinoma of unknown primary (CUP) has been gaining popularity in recent times. The primary aim of our study was to determine the identification rate of primary tumours in our cohort of patients undergoing lingual tonsillectomy with or without palatine tonsillectomy for workup of head and neck CUP. Secondary aims sought to delineate effectiveness of radiological work-up, surgical intervention, tumour characteristics and post-operative complication rate and nature.

Methods:

This was a retrospective study of all patients undergoing diagnostic TORS for head and neck carcinoma of unknown primary over an eight-year period from March 2014 to March 2022 across four centres in two countries.

Results:

Fifty-six patients undergoing TORS to aid diagnosis of a primary site in head and neck CUP were included, with a mean age of 58.1 years. Overall, TORS lingual tonsillectomy with or without palatine tonsillectomy identified a primary tumour in 41 (73.2%) patients. Over half were T1 tumours with 25% measuring less than 10mm. While pre-operative imaging in the form of PET-CT with or without CT or MRI had failed to identify a primary site in any patient, 17 (30.3%) had a suspicious finding on imaging. Of the 39 (69.6%) patients without any suspicious pre-operative imaging findings, the identification rate was 66.7%.

Conclusion:

TORS lingual tonsillectomy is an effective addition to the diagnostic workup of CUP, particularly in those with HPV positive nodal disease.