Abstract

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A Service Review of PD-L1 Biomarker Use in the Head and Neck Cancer Service

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ABSTRACT

Introduction: Head and neck squamous cell carcinoma (HNSCC) has a poor prognosis, particularly in advanced stages with a five-year survival of approximately 50%. For patients with advanced HNSCC, immunotherapy may aid disease control. Programmed death-ligand 1 (PD-L1) expression, measured using the Combined Positive Score (CPS), is a key biomarker in predicting response to immune checkpoint inhibitors such as pembrolizumab. The KEYNOTE-048 trial established how PD-L1 CPS scoring can play a significant role in guiding recurrent or metastatic HNSCC treatment. This service review evaluates PD-L1 biomarker testing in head and neck cancer cases, focusing on CPS score distribution, efficiency of PD-L1 reporting and alignment with KEYNOTE-048 trial findings.

Methodology: A retrospective review of laboratory pathology reports from July to December 2024 identified all PD-L1 test requests in HNSCC cases. Data collected included CPS scores, tumour site, sample type, and report turnaround times. Comparative analysis was performed against published KEYNOTE-048 data to assess alignment with clinical trial results.

Results: CPS score distribution within our cohort closely matched KEYNOTE-048 trial findings, reinforcing the clinical relevance of PD-L1 testing in HNSCC treatment decisions. An evaluation of PD-L1 reporting efficiency identified trends in turnaround times and highlighted areas for potential improvement.

Conclusion: The study supports the role of PD-L1 biomarker testing in guiding immunotherapy decisions in HNSCC. The alignment between our real-world data and clinical trial evidence confirms current reporting practice within the head and neck pathology team matches well with published data. Improving reporting efficiency will enhance the integration of biomarker-driven treatment strategies.

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