Table 1. Notable Recent Advances With Immune Checkpoint Inhibitors

CANCER TYPE	KEY FINDING	FIRST AUTHOR
Breast cancer	Addition of pembrolizumab to standard neoadjuvant therapy for high-risk, HER2-negative breast cancer increased rates of pathologic complete response, especially in women with triple-negative breast cancer—a 50% higher rate.	Nanda[36]
Head and neck cancer	Patients with recurrent or metastatic squamous cell head and neck cancer who received nivolumab lived a median of 2-3 months longer than did those who received standard therapy of investigator's choice.	Gillison[37]
Head and neck cancer	Compared with patients with recurrent or metastatic squamous cell head and neck cancer who received standard therapy of investigator's choice, those who received nivolumab had fewer symptoms and better quality of life for 15 weeks.	Harrington[38]
Kidney cancer	Response rate was higher in patients with advanced kidney cancer who received nivolumab as initial treatment than in those who received standard sunitinib (42% v 26%, respectively), and time until cancer worsening was longer (median, 11.6 months v 8.4 months, respectively).	Escudier[39]
Liver cancer	In an early clinical trial of patients with advanced liver cancer, response rate to nivolumab was 20% and adverse effects were manageable.	El-Khoueiry[40]
Lung cancer	In a clinical trial of patients with advanced small-cell lung cancer, 1-year survival rate was 30% for those who received nivolumab and 42% for those who received nivolumab with ipililumab.	Hellmann[41]
Lung cancer	Treatment with checkpoint inhibitor durvalumab after standard chemotherapy and radiation delayed worsening of stage III NSCLC by 11 months.	Antonia[42]
Skin cancer	Compared with patients with advanced melanoma who received adjuvant ipililumab, those who received nivolumab had a higher rate of recurrence-free survival at 12 months (70% v 61%, respectively) and a lower rate of severe adverse effects (14% v 46%, respectively).	Weber[43]
Skin cancer	In patients with advanced melanoma, 3-year survival rate was higher with nivolumab and ipililumab combined (55%) than with either nivolulmab alone (52%) or ipililumab alone (32%).	Wolchok[44]
Skin cancer	In a clinical trial of patients with advanced Merkel cell carcinoma, response rate to PD-L1 inhibitor avelumab was 32% during a median follow-up of 10 months.	Kaufman[45]
Skin cancer	An early clinical trial suggests that a new PD-1 inhibitor, REGN2810, may be effective against a common skin cancer, cutaneous squamous cell carcinoma. Response rate in patients with advanced disease was 52%.	Papadopoulos[46]
Stomach cancer	A large clinical trial shows that nivolumab is effective as a salvage therapy for people with advanced gastric or gastroesophageal junction cancer that worsens despite chemotherapy. At 12 months, 27% of patients were alive compared with 11% of those who received placebo.	Kang[47]
Stomach cancer	Pembrolizumab showed promising efficacy in a clinical trial of patients with previously treated, advanced stomach or gastroesophageal junction cancer. Response rate was 11% and 12-month survival rate was 23%.	Fuchs[48]