Checkpoint Blockers for Lung Cancer

Checkpoint inhibitor immunotherapy, alone or in combination with chemotherapy, shows promise for advanced non-small-cell lung cancer.

December 17, 2018 By Liz Highleyman

Research presented at the World Conference on Lung Cancer in September showed that checkpoint inhibitor immunotherapy, alone or in combination with chemotherapy, shows promise for advanced non-small-cell lung cancer (NSLC).

Some tumors can hijack the PD-1 checkpoint receptor on T cells to turn off immune responses against them. Blocking PD-1 or its binding partner, known as PD-L1, restores T-cell activity.

The PACIFIC trial showed that Imfinzi (durvalumab), a PD-L1 blocker, delayed disease progression and led to longer overall survival in people with inoperable Stage III NSCLC that has not progressed after chemotherapy and radiation. After two years, Imfinzi reduced the risk of death by 31 percent. The median overall survival time was 28.7 months in the placebo group but was not reached in the Imfinzi group because a majority of those patients were still alive.

The IMpower132 study showed that another PD-L1 blocker, Tecentriq (atezolizumab), used with Alimta (pemetrexed) and platinum-based chemotherapy delayed disease progression in people with more advanced Stage IV, or metastatic, nonsquamous NSCLC who are not eligible for targeted therapy. After a year, 38 percent of people taking the Tecentriq combo were still alive without disease progression, compared with 17 percent of those who used chemotherapy alone.

In August, the Food and Drug Administration (FDA) granted full approval of the PD-1 blocker Keytruda (pembrolizumab) plus Alimta and platinum chemotherapy for initial treatment of metastatic nonsquamous NSCLC that lacks targetable gene mutations. The Phase III KEYNOTE-189 trial showed that this combo cut the risk of death by about half compared with chemotherapy alone.

In October, the FDA OK’d Keytruda plus carboplatin and either paclitaxel or Abraxane (nab-paclitaxel) for first-line treatment of metastatic squamous NSCLC, a less common type that accounts for about a quarter of all lung cancer cases. The Phase III KEYNOTE-407 trial showed that this combination works better than chemotherapy alone, extending survival by about 4 1/2 months.