A Closer Look at the Hematology/Oncology PRN

Overview

The Hematology/Oncology Practice and Research Network (PRN) was established in 1994 to improve professional collaboration among clinical pharmacists who practice in the area of hematology and oncology. As of October 2015, the PRN had 1048 members, and trainees make up more than 50% of the PRN membership. The Hematology/Oncology PRN focuses on developing and promoting the growth of the hematology/oncology clinical pharmacy profession involving hematology/oncology clinical pharmacists, students, residents, and fellows in their projects and initiatives. The PRN also supports the Frontiers Fund with annual donations.

Opportunities

The Hematology/Oncology PRN supports travel to the ACCP meeting of one hematology/oncology resident and two pharmacy students. Annually, the PRN gives $500 each for two pharmacy students and $1000 for one pharmacy resident. The pharmacy resident and students who receive travel support to the ACCP meeting are invited to present a research project at the ACCP Annual Meeting PRN networking and business meeting. The PRN also invites pharmacy students and residents to sign up and become members of different PRN committees and become involved with these committees.

Clinical Issues

Renal cell carcinoma (RCC) accounts for about 3.8% of all new cancer cases in the United States. In 2015 in the United States, it was predicted that 61,560 patients would be given a diagnosis of renal cancer and that about 14,080 would die of this disease. About 90% of all kidney cancers are RCC, and the most predominant type of RCC are clear cell tumors. Risk factors for RCC include obesity, smoking, and several hereditary types, with the most predominant being VHL (von Hippel-Lindau) disease. The median age at diagnosis for all types of renal cancer is 64 years.[1]

The main treatment options for stages I–III include nephrectomy, active surveillance, and ablative techniques for the non-surgical candidate. The mainstay treatment of stage IV includes pharmacologic therapy, including targeted therapy and immunotherapy. The first-line agents for the treatment of stage IV RCC include sunitinib, temsirolimus, bevacizumab, pazopanib, high-dose aldesleukin, axitinib, and sorafenib, depending on the prognostic factors. Second-line agents include axitinib, cabozatinib, everolimus, sorafenib, sunitinib, pazopanib, temsirolimus, bevacizumab, and high-dose aldesleukin, depending on what was given as the first-line therapy.[1]

Nivolumab is a fully human immunoglobulin (IgG4) monoclonal antibody that blocks interaction between programmed cell death 1 (PD-1) expressed on activated T cells and ligands PD-L1 and PD-L2 expressed on immune and tumor cells.[2,3]

Nivolumab was approved for the treatment of melanoma in 2014 and of NSCLC (non–small cell lung cancer) in 2015.[4] Nivolumab activity for the treatment of RCC was assessed by comparing nivolumab with everolimus, which is one of the options for the treatment of RCC in the second-line setting. The study involved 821 patients with advanced clear cell RCC who previously received one or two regimens of antiangiogenic therapy. The patients were randomized in a 1:1 ratio to receive either nivolumab 3 mg/kg intravenously every 2 weeks or everolimus 10 mg orally daily. The median overall survival was 25.0 months (95% CI) in the nivolumab group and 19.6 months in the everolimus group. The hazard ratio for death in the nivolumab group versus the everolimus group was 0.73 with a 98.5% CI and p=0.002. The nivolumab group had fewer grade 3 or 4 adverse events. In the nivolumab group, grade 3 or 4 adverse events occurred in 19% of patients, and the most common adverse event was fatigue (2%).

In the everolimus group, grade 3 or 4 adverse events occurred in 37% of patients, and the most common adverse event was anemia (8%).[3]

Given these study results, nivolumab was approved for the treatment of RCC as an option in the second-line setting.[3]

References:
1. National Comprehensive Cancer Network Guidelines Version 2.2016. Kidney Cancer. Available at www.nccn.org. Accessed January 24, 2016.
2. LexiComp. Nivolumab. Available at http://online.lexi.com. Accessed January 24, 2016.
3. Motzer RJ, Escudier B, McDermott DF, et al. Nivolumab versus everolimus in advanced renal-cell carcinoma. N Engl J Med 2015;373:1803-13.
4. U.S. Food and Drug Administration (FDA). Nivolumab Approval. Available at www.fda.gov. Accessed January 24, 2016.

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