Valerie Peterson, CRNP

Thoracic Medical Oncology
Sidney Kimmel Comprehensive Cancer Center
Johns Hopkins Bayview
APP Perspective/Application of Guidelines

Back to basics: What is an APP?

- An advanced practice provider is bridging the gap between patient and physician.
- Essential team members with a strong clinical background and autonomy to diagnosis and treat
- Seeing patients while on treatment, managing toxicities/irAEs, in long-term follow up/survivorship clinics, and in the urgent care setting
In terms of the Guidelines...

-APP needs to be able to understand and interpret the guidelines to be able to reiterate the rationale for the immunotherapy and at what point in treatment

-med review

-EDUCATION
  -Prior to initiation
  -at each visit
Most common adverse reactions (reported in >20% of patients)

- **Pembrolizumab (PD-1)** – fatigue, musculoskeletal pain, decreased appetite, pruritus, diarrhea, nausea, rash, pyrexia, cough, dyspnea, constipation, pain, and abdominal pain
- **Nivolumab (PD-1)** – fatigue, rash, musculoskeletal pain, pruritus, diarrhea, nausea, asthenia, cough, dyspnea, constipation, decreased appetite, back pain, arthralgia, URI, pyrexia, h/a, abdominal pain
- **Atezolizumab (PDL-1)** – fatigue/asthenia, nausea, cough, dyspnea, decreased appetite (alopecia when combined with anti-neoplastic drugs)
- **Durvalumab (PDL-1)** – Fatigue, nausea, constipation, decreased appetite, abdominal pain, rash, fever
- **Ipilimumab (CTLA-4)** – fatigue, diarrhea, pruritis, rash, colitis, nausea, vomiting, h/a, pyrexia, decreased appetite, insomnia

Data reported in package inserts for each drug
Immune Related Adverse Events

- Hepatic: Hepatitis
- Gastrointestinal: Diarrhea, Colitis, GI perforation, Pancreatitis
- Renal: Nephritis, Renal failure
- Rheumatologic: Arthritis, Polymyositis, Rheumatoid arthritis
- Neurologic: Motor or sensory neuropathy, Guillain-Barre, Myasthenia gravis
- Eye: Uveitis, Iritis
- Endocrine: Hypothyroidism, Hyperthyroidism, Adrenal insufficiency, Hypophysitis, Diabetes Mellitus
- Pulmonary: Pneumonitis, Sarcoidosis
- Skin: Dermatitis, Erythema multiforme, Stevens-Johnson syndrome, Toxic epidermal necrolysis, Vitiligo

Adapted by Marrone K & Riemer J from BMSconnect.com
The APP’s role in evaluation of patient’s on therapy

- At every visit
  - Obtain Vital signs
  - Obtain labs (CBC, CMP, T4, TSH)
  - Detailed/thorough history of symptoms (change from baseline)

URGENT CARE VISITS
- Referrals come from triage RN (patient phone calls or patient portal messages)
- Triage RN helps to triage the severity (depending on symptoms i.e. if ED is more appropriate)
- vitals, standard labs, imaging, IV interventions
Grading of irAEs

• **Grade 1**: mild; asymptomatic or mild symptoms clinical or diagnostic observations only – intervention not indicated

• **Grade 2**: moderate; minimal, local or non-invasive intervention indicated; limiting

• **Grade 3**: severely or medically significant but not immediately life threatening hospitalization or prolongation of hospitalization indicated

• **Grade 4**: life threatening consequences, urgent intervention indicated

• **Grade 5**: Death
Management/Plan

Based on evaluation and grading of irAE
- HOLD immunotherapy
- initiate steroids
- provide EDUCATION on steroids and steroid taper
  (other supportive meds ex: Bactrim, PPI)
- Follow up plan
- refer to tox team specialist
Take Home Points

• Education
  • Focused discussion to ensure the patient understands the
difference between therapies (chemo/targeted/IO)
  • Reviewing irAEs at each visit

• The APP may be performing the initial work up of the irAE
  • Getting an accurate ROS/history is essential
• Early detection and management is critical
• Frequent follow up
• Refer to our colleagues