

Boosting Education While Boosting the Immune System

Mandy Hendricks RN MSN OCN
Lehigh Valley Health Network, Mandy.Hendricks@lvhn.org

Cathy Cerami RN, BSN, OCN
Lehigh Valley Health Network, cathy.cerami@lvhn.org

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Boosting Education While Boosting the Immune System

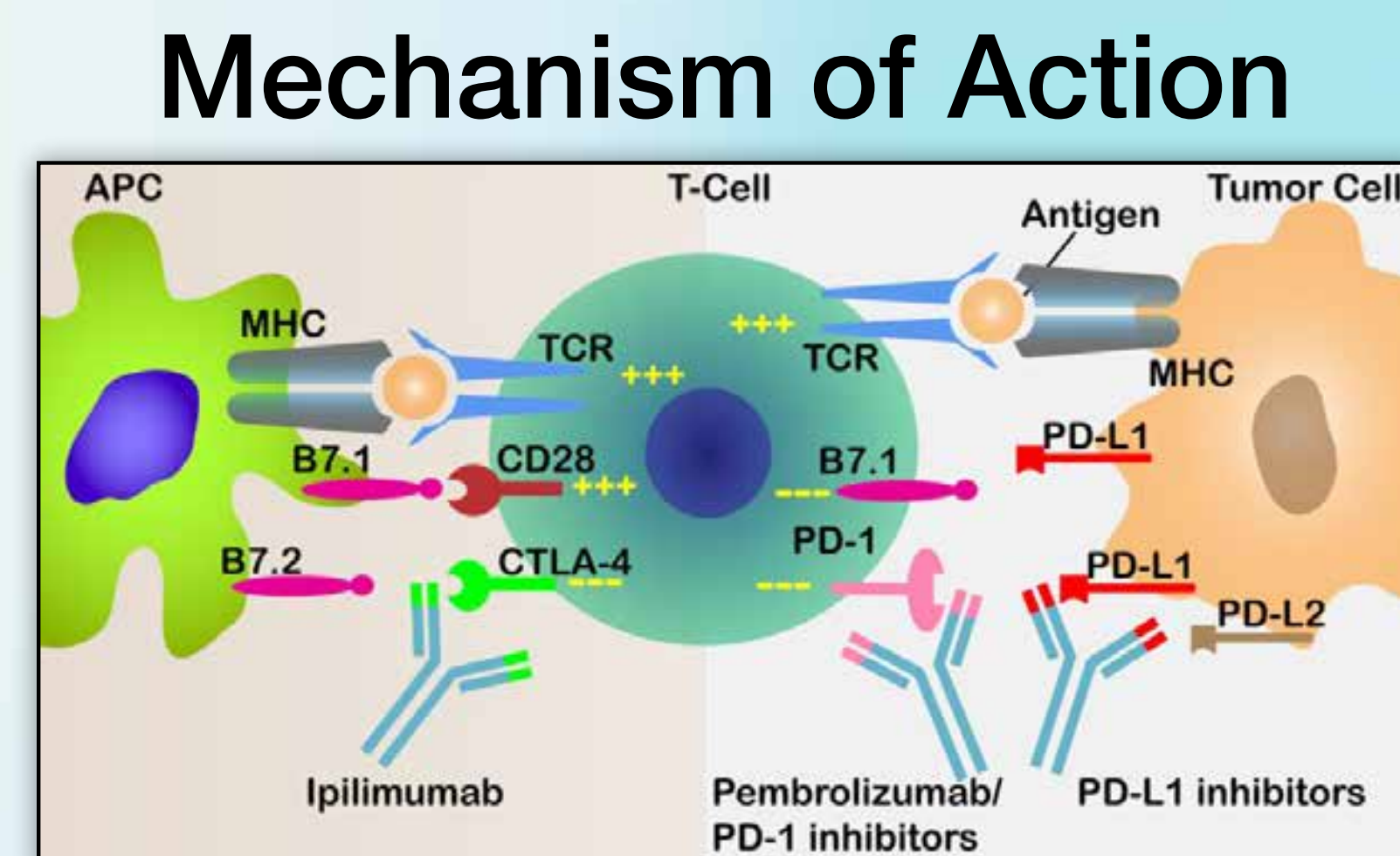
Mandy Hendricks, RN, MSN, AOCNS and Cathy Cerami, RN, BSN, OCN
Lehigh Valley Health Network, Allentown, Pennsylvania

Purpose

To educate staff and patients on immune-mediated adverse event.

Significance & Background

- Since 2011 the Food and Drug Administration (FDA) has released over 80 drug approvals and/or new indications for Cancer.
- This number is expected to rise as science, technology and therapeutics advance with a more personalized approach to Cancer Care.
- In 2014, all 10 of newly FDA approved drugs worked by attacking the cancer on the molecular level.



From: Programmed Cell Death-1 (PD-1) Pathway Checkpoint Inhibition: Immunology for Advanced Melanoma, 2011.

Background

- Immune-mediated adverse reactions are common in patients treated with immunotherapies.
- Since 2011, Lehigh Valley Health Network has opened more than 20 clinical trials including immunotherapies.
- Combined with approval of ipilimumab in 2011, and pembrolizumab and nivolumab in 2014, the number of patients receiving immunotherapy has increased.



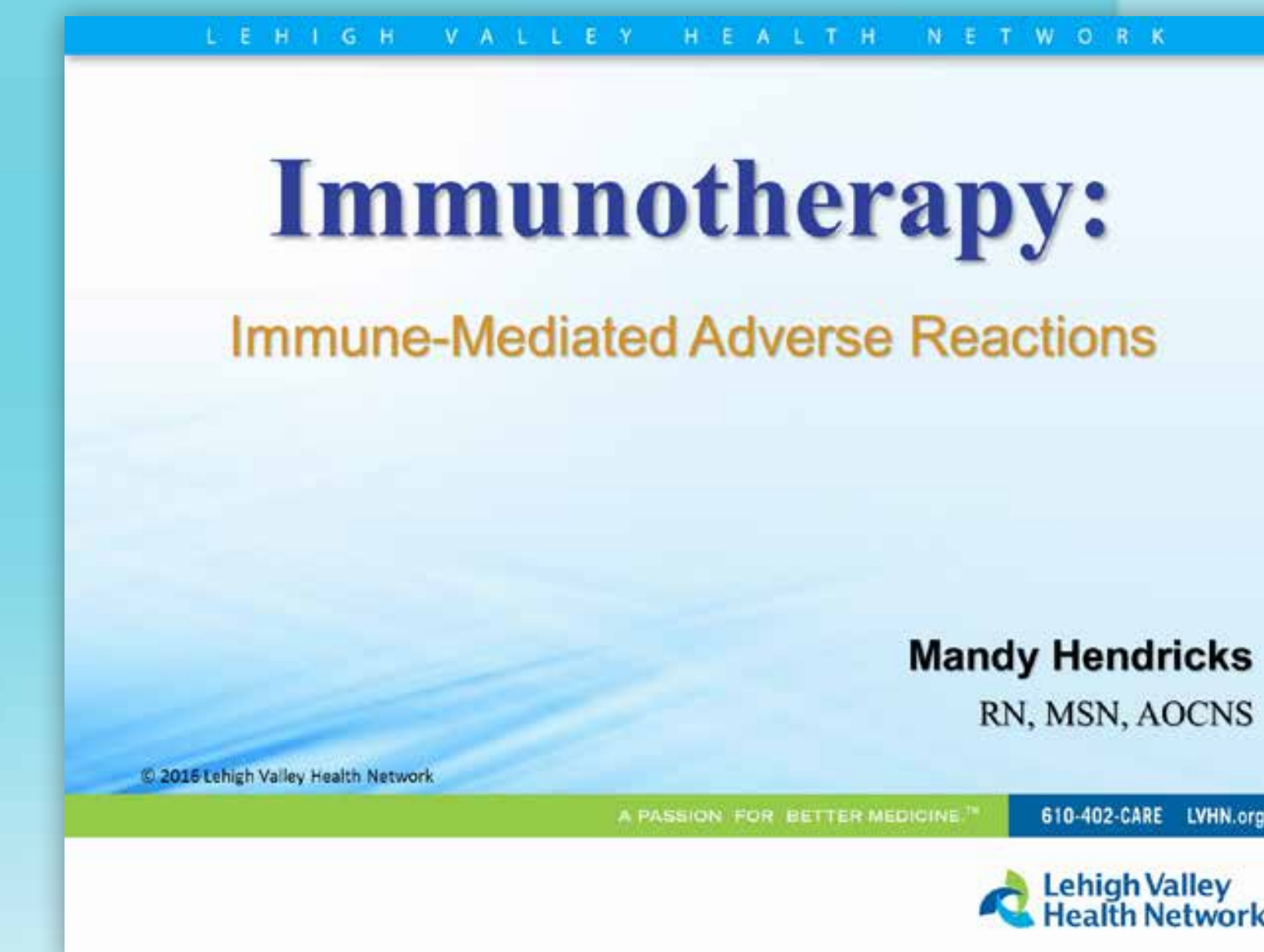
Year	CTLA-4 Blocking Antibody	PD-1 Blocking Antibody	Total Doses
2011	57	0	57
2012	21	0	21
2013	35	22	57
2014	58	62	120
2015	78	493	571
2016*	31	249	280
TOTAL DOSES	280	826	1106

* as of 3/28/16

Interventions

- Inpatient and outpatient nurses identified the topic of immunotherapy and adverse events for education during a learning needs assessment
 - Oncology nurse leaders provided in-services to staff specific to the drugs with a large concentration on immune-mediated adverse reactions.

In-Services



- The Lehigh Valley Health Network (LVHN) Cancer Program Patient Education also identified a need for patient education material.
 - A patient education book was developed to provide unique information related to immunotherapy, specifically how to recognize immune-mediated adverse reactions.

Excerpt from Patient Education

Side Effects and Management of Side Effects

What are side effects?

- Symptom(s) caused by a medication that could be unpleasant.
- The side effects listed below may be serious side effects, called immune-mediated adverse reactions, and should not be ignored.
- Do not treat these symptoms yourself or with over the counter medication.
- Please contact your cancer care team if you develop any of these side effects.

What causes side effects?

- Immunotherapy can cause your immune system to attack normal organs and tissues and affect the way they work.
- Remember immunotherapy works by "revving up" your immune system.
- This can cause your immune system to "attack" your organs and produce side effects.

Will I get side effects?

- Everyone's experience is unique.
- Side effects depend on the immunotherapy you are taking and how your immune system reacts to the treatment.
- It is important to report how you feel to your cancer care team.

When do the side effects occur?

- The side effects may happen any time during treatment or even after your treatment has ended.

What can be done about side effects?

- Since the immune-mediated adverse reactions or side effects are caused as a result of the immune-system being "revved up", the best way to manage these side effects is to calm the immune system.
- This is usually done with high dose, intravenous steroids.
- Over-the-counter medication or managing these symptoms on your own will not stop these side effects.
- The side effects can be serious or even life-threatening so it is important to notify your doctor right away if you develop any symptoms outlined below.
- This leads to early detection and prompt treatment.
- As discussed these side effects can be very serious – but they are treatable.

Evaluation

- Written and verbal feedback of staff reported an increase in knowledge of immunotherapies and their adverse events following the in-services.
- Patients are reporting signs and symptoms of immune-mediated adverse reactions leading to direct hospital admission for prompt management with corticosteroids.

Discussion

- Innovative strategies to educate staff and patients are needed to provide quality care to a growing population of patients receiving immunotherapy.
- The adverse events of immunotherapy are common and much different than chemotherapy or radiation side effects.
- To maintain patient safety, it is imperative for nurses to recognize the symptoms.
- Oncology nurse leaders continue to provide staff education and in-services as needed.

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