Addressing Bi-Specific T-Cell Engager (BTCE) Education Gaps on an In-Patient Oncology Unit Through In-Person Education

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Background

In early 2025, ThedaCare outpatient and inpatient oncology collaborated to roll out BTCE therapies in the community hospital setting.

Since rollout, few inpatient educational opportunities on this **specialty anti-neoplastic therapy with a high risk of reaction.** Available education is a 20-minute online learning module with suboptimal audio quality completed during a shift.

An **education gap** was identified and education developed to improve knowledge and increase confidence in providing care, empowering nurses to be able to recognize reactions quickly and intervene appropriately.

Clinical Significance

BTCEs have a high rate of reaction and need prompt intervention. [7]

Cytokine Release Syndrome (CRS) reactions in 49% to 51% received epcoritamab.[1] CRS rates similar across BTCE, ranging from 36% to 76%.[2,3,4]

Immune Effector Cell-Associated Neurotoxicity Syndrome (ICANS) reactions are rarer (single digit %), but potentially severe side effects. Symptoms include aphasia, depressed level of consciousness and seizures.[1,2,3,4]

Educational Framework

- A 5-minute, one-on-one in-person presentation completed during RNs' regularly scheduled shifts, as **group education time and staff meetings were unavailable**
- Short pre- and post-education surveys completed by participants to gauge their perceived level of knowledge and comfort in administering BTCEs.
- The length of time varied based on the participants nursing experience and number of questions.

The high incidence, potential severity, and need for immediate intervention make BTCE high-risk medications that have unique education needs, especially in the community hospital setting. After receiving in-person education with the included learning objectives, nurses felt more knowledgeable and comfortable with BTCE administration. As a result, in-person introductory and follow-up education at regular intervals is recommended for nurses administering step-up dosing of BTCE on inpatient units to improve quality of care.

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for results and references

Learning Objectives

- Define BTCE and its therapeutic class.[6]
- Describe the type of precautions needed for administering BTCE therapies. [1,2,3,4]
- List some of the BTCEs and their administration routes. [1,2,3,4]
- Describe the "air sandwich" technique for subcutaneous drug administration and its benefits.[5]
- Identify potential adverse effects of BTCE administration and parameters for paging on-call oncologist.[7]
- List common rescue medications and identify when tocilizumab is not used.[7]

Results Overview

Overall, respondents reported:

- Feeling more knowledgeable and more comfortable administering BTCEs and monitoring patients following the presentation.
- Wanting education more often than it was offered and more often than they stated on their pretest.
- Two participants reached out to the presenter at future dates to ask questions.

Participant Comments:

- "I just believe quarterly review is warranted due to the high risk of neurotoxicity. I have noticed deviations from common protocol that could be problematic. Grading criteria for ICANS and CRS should be done on a regular basis."
- "This presentation filled in some knowledge gaps regarding available resources that was extremely helpful.

Disclosure

There are no relevant financial or personal relationships that could influence the research or outcomes.