Name: Abdulkadir Yusuf Rabi

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1. Discuss your nursing responsibilities towards a patient schedulled to  receive  neoadjuvant  treatment for the management of cancer.

* **Patient selection**

Several guideline committees have grappled with patient selection for neoadjuvant therapy using different methodologies and with varying degrees of rigor. The Canadian national expert consensus on neoadjuvant therapy for breast cancer was developed to address the question of patient selection and management. A modified Delphi protocol was used to obtain the opinions of 85 expert clinicians from across the country, and these opinions were then compared with available evidence.

* **Pathway of care**
A review of the medical literature indicates that an estimated 10% to15% of breast cancer patients are treated with neoadjuvant therapy and that the pathway of care can be confusing for patients and sometimes for clinicians as well. To establish an optimal pathway of care, the group responsible for developing the Canadian national expert consensus on neoadjuvant therapy for breast cancer considered clinician opinion and the management strategies employed in phase 3 randomized controlled trials.
* **Initiating therapy**
One of the benefits of initiating neoadjuvant therapy is expedited treatment of both in-breast disease and micrometastatic disease. Understandably, most patients and clinicians agree that timely initiation of therapy is crucial. While it has not yet been determined if more expeditious initiation of therapy leads to improved outcomes, expert opinion holds that chemotherapy should be started within 28 days of biopsy, and ideally earlier in the setting of HER2-positive and triple-negative disease
* **Monitoring response**

Once therapy is initiated, it is important to monitor clinical response. We know from previous studies that roughly 10% of patients have no response to neoadjuvant therapy. In such cases, the systemic therapy should be changed or the patient should be scheduled for surgery as soon as possible. If disease progression or lack of response occurs and the patient does not have operable disease, salvage radiation therapy can be considered. Multidisciplinary review and discussion of any patient who is not responding to neoadjuvant therapy are needed to choose optimal second-line therapy—be it an alternate chemotherapy agent, surgery, or radiation.

* **After therapy**

A review of all randomized controlled trials involving neoadjuvant therapy considered the timing of surgery upon completion of NAT. In these studies, patients underwent surgery 3 to 4 weeks after the last dose of chemotherapy. Radiation was then offered to these patients based on initial clinical stage. This is consistent with the Canadian national expert consensus. The transition periods in the pathway of care (from systemic therapy to surgery, from surgery to radiation) can be confusing for patients and requires coordinated multidisciplinary communication. Data from the prospective neoadjuvant database of the BC Cancer Vancouver Centre show that the median time from completion of chemotherapy to surgery is 32 days. Again, this has improved since the audit and feedback quality assurance initiative began, but is still not ideal. Ongoing strategies to improve communication between disciplines is essential to ensure continued optimization of patient outcomes.

* **Outcomes**

As Wolmark and colleagues demonstrated in 2001, patients who experience a pathologic complete response to NAT have improved survival compared with those who do not achieve a pCR. Whether pCR can be used as a reliable surrogate marker for disease-free survival or overall survival in randomized controlled trials has been a subject of debate. Nonetheless, in clinical practice, pCR is a very reassuring outcome and suggests that the patient has achieved maximal benefit from the neoadjuvant therapy provided.

* **Future directions**
Currently, further chemotherapy is not recommended if complete pathologic response is not achieved after neoadjuvant therapy. Targeted therapy in the form of endocrine agents for ER-positive disease and anti-HER2 agents for HER2-positive disease should be continued for patients who undergo primary surgery upfront, but additional chemotherapy is not the standard of care.

2. Discuss your responsibilities towards a patient receiving radiotherapy on  an oncology unit where your practice.

* **Patient assessment**

Nurses are expected to be expert in assessing a patient's physical and emotional status, past health history, health practices, and both the patient's and the family's knowledge of the disease and its treatment. The oncology nurse reviews the treatment plan with the oncologist, is aware of expected outcomes and possible complications, and independently assesses the patient's general physical and emotional status. It is essential that a detailed nursing history and physical examination be completed. An oncology nurse is expected to be aware of the results and general implications of all relevant laboratory, pathology, and imaging studies. Assessment of the patient's understanding of the disease and proposed treatment is fundamental in allaying anxiety and formulating a care plan. Obtaining this information will help avoid misunderstanding and confused expectations. Thorough patient preparation improves compliance with treatment programs and may impact treatment outcomes as well

* Patient Education

The nurse often has a better opportunity than any other member of the healthcare team to develop the required rapport for effective educational efforts with patients and their families. Patient and family education starts before therapy and continues during and after therapy. Continual reinforcement throughout the treatment course helps to ensure success. Appropriate written and visual teaching aids may be used, as well as referrals to other professionals or community programs, such as cancer support groups. Such education includes structured and unstructured experiences to assist patients with coping with their diagnosis, long-term adjustments, and symptoms; to gain information about prevention, diagnosis and care; and to develop skills, knowledge, and attitudes to maintain or regain health status. This planned education uses a combination of methods that best meet the needs, capabilities, and learning style of the patient. The ONS has enhanced this definition by recommending the following patient education outcome criteria[34](https://www.ncbi.nlm.nih.gov/books/NBK13570/): The patient and/or family should be able to

(1) describe the state of the disease and therapy at a level consistent with the patient's educational and emotional status;

(2) participate in the decision-making process pertaining to the plan of care and life activities;

 (3) identify appropriate community resources that provide information and services;

(4) describe appropriate actions for highly predictable problems, oncologic emergencies, and major side effects of the disease and/or therapy; and

(5) describe the schedule when ongoing therapy is predicted.

* Coordination of care

The oncology nurse plays a vital role in coordinating the multiple and complex technologies now commonly employed in cancer diagnosis and treatment. This coordination encompasses direct patient care; documentation in the medical record; participation in therapy; symptom management; organization of referrals to other healthcare providers; both patient and family education; as well as counseling throughout diagnosis, therapy, and follow up. The nurse should serve as the patient's first line of communication. Ideally, the patient and family should feel free to contact the oncology nurse by phone during the entire treatment program. Many patients travel long distances, so the importance of communication by telephone must be emphasized. It allows continuous patient communication, early recognition of emergencies, and regular emotional support.

* Direct patient care

The majority of ONS members provide direct patient care involving chemotherapy. National certification for chemotherapy currently does not exist. Each institution should have written policies for chemotherapy certification, administration of antineoplastic drugs (all routes), safe drug handling and disposal, management of untoward reactions, such as allergic reactions, and methods for documentation. The ONS currently offers a chemotherapy trainers course. These trainers may then offer chemotherapy training courses in the community to oncology nurses based on ONS guidelines and curriculum.

* Symptoms management

Oncology nurses are challenged on a daily basis to deal with the numerous symptoms patients with cancer and their families encounter as a result of their cancer or its treatment. Nurses triage patient problems and assist in the evaluation of symptoms and initiation of interventions. For example, subjective and objective data, including information about the last chemotherapy treatment and knowledge of the patient's history, guide the nurse in determining the patient's disposition and treatment. Much progress has been made in managing the side effects of chemotherapy, and nurses have contributed significantly to this success. For example, nausea and vomiting are two of the most common symptoms associated with chemotherapy. Control of these symptoms has been a nursing research priority. Multiple studies have helped to define nausea and vomiting and to develop tools to measure occurrence, distress, and individual experiences associated with these symptoms.This information assists in the treatment of nausea and vomiting and evaluation of the effectiveness of prescribed treatments.

* Supportive care

Oncology nurses are closely involved with numerous supportive care issues encountered by cancer patients and their families. This chapter does not allow a detailed discussion of the numerous areas of supportive and palliative care, but two areas deserve special mention, that is, the involvement of nurses in pain management and in survivorship.

3. What precautions should you take while caring for a patient receiving chemotherapy on your unit?

* Use luer-lok fittings on all intravenous tubing used to deliver chemotherapy
* Dispose of all equipment used in chemotherapy preparation and administration in appropriate leak-proof puncture-proof containers
* Dispose of all chemotherapy wastes as hazardous materials
* Wear surgical gloves when handling antineoplastic agents
* Wear disposable long sleeved gowns when preparing and administering chemotherapeutic agents
* Use biologic safety cabinet for the preparation of all chemotherapeutic agents