**Management of Chemotherapy-induced Peripheral Neuropathy: A nursing application**

Francesca Cardone (Italy), EONS WG

Chemotherapy- induced Peripheral Neuropathy (CIPN) is a very common health complication that involves patients receiving treatment for cancer. Approximately 30 of 40% of patients treated with neurotoxic chemotherapy will develop CIPN (Staff et al., 2017). Typically, patients experience more sensory manifestations rather than motor symptoms (Stubblefield et al., 2009) that include paraesthesia, reduced feeling (hypoesthesia) and increased sensitivity (hyperpathia) to pressure, pain, temperature and touch. Pain is often reported and may be described as
burning, freezing, lancination and shock-like. These symptoms can significantly limit daily activities and reduce a patient’s quality of life. Unfortunately, there are no approved or effective agents for preventing CIPN (Desforges et al., 2022) but there is an effective treatment that is called Duloxetine.

**What is CIPN?**

CIPN occurs when chemotherapy damages the nerves outside the brain and spinal cord. Symptoms often begin in the fingers and toes and can spread, making it challenging to perform easy tasks.

**Why does that it happens?**

It is caused by certain chemotherapy drugs, like platinum-based drugs, taxanes, and vinca alkaloids that are known to cause nerve damage.

**Which are the common Symptoms?**

Symptoms can range from mild tingling and numbness to severe pain and muscle weakness. If a patient experiences these symptoms, it is essential to communicate them to your healthcare team promptly.Early identification allows your care team to make potential adjustments to your treatment plan and initiate strategies to manage your symptoms, potentially preventing further progression.

**Pain and Symptom Management**

Some medications, like duloxetine, have been found to alleviate CIPN-related pain. Topical treatments such as capsaicin creams and lidocaine patches may also offer relief for localised pain.Complementary therapies such as acupuncture, massage, and relaxation exercises have shown benefits for some patients. Always consult with your healthcare provider before starting any new therapy to ensure it's safe and suitable.

**Practical Tips for Managing CIPN at Home**

1. **Protecting Hands and Feet:** Patients with CIPN often experience decreased sensation, so take extra care to avoid burns or injuries. Use oven mitts in the kitchen, wear comfortable shoes with non-slip soles, and avoid walking barefoot.
2. **Creating a Safe Environment:** Fall prevention is crucial, as balance and coordination can be affected by CIPN. Remove loose rugs, use night lights, and consider using handrails in bathrooms and stairs.
3. **Incorporating Gentle Exercise:** Light exercise, such as walking or stretching, can improve blood circulation and help manage symptoms. Physical therapists can offer specific exercises tailored to maintain strength and balance.

**Tips for Caregivers**

1. **Understanding CIPN's Impact on Daily Life:** As a caregiver, knowing how CIPN affects your loved one's abilities can help you provide the right support. Encourage them to talk about their symptoms and adjust daily activities as needed.
2. **Helping with Daily Tasks:** Simple tasks like buttoning a shirt or handling utensils can be difficult. Be ready to assist and suggest adaptive devices, such as non-slip grips, to make these tasks easier.
3. **Monitoring and Reporting Changes:** Caregivers can play a crucial role in tracking symptoms and communicating with the healthcare team, especially if symptoms worsen or new ones appear.

**Conclusion**

While CIPN can be a challenging side effect of chemotherapy, there are many strategies to manage its symptoms and support daily functioning. Through careful monitoring, lifestyle adjustments, and a strong support network, patients can find ways to continue enjoying life and activities even while managing CIPN. Remember, you're not alone—your healthcare team and loved ones are there to support you every step of the way.

**Bibliography**

Desforges, A. D., Hebert, C. M., Spence, A. L., Reid, B., Dhaibar, H. A., Cruz-Topete, D., Cornett, E. M., Kaye, A. D., Urits, I., & Viswanath, O. (2022). Treatment and diagnosis of chemotherapy-induced peripheral neuropathy: An update. *Biomedicine & Pharmacotherapy = Biomedecine & Pharmacotherapie*, *147*, 112671. https://doi.org/10.1016/j.biopha.2022.112671

Staff, N. P., Grisold, A., Grisold, W., & Windebank, A. J. (2017). Chemotherapy‐induced peripheral neuropathy: A current review. *Annals of Neurology*, *81*(6), 772–781. https://doi.org/10.1002/ana.24951

Stubblefield, M. D., Burstein, H. J., Burton, A. W., Custodio, C. M., Deng, G. E., Ho, M., Junck, L., Morris, G. S., Paice, J. A., Tummala, S., & Von Roenn, J. H. (2009). NCCN Task Force Report: Management of Neuropathy in Cancer. *Journal of the National Comprehensive Cancer Network*, *7*(Suppl\_5), S-1-S-26. https://doi.org/10.6004/jnccn.2009.0078