

## Chemotherapy induced Painful Neuropathies

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Chemotherapy-induced polyneuropathy (CIPN) is a major cause of long-term morbidity and reduced quality of life in cancer survivors. A series of drugs have been shown to cause CIPN. These include is prevalent after treatment with taxanes, taxanes and platin substances, vinca alkaloids, proteasome inhibitors and antiangiogenesis agents, which are used to treat different types of malignant diseases such as breast, gastrointestinal, lung, ovarian, prostate, myeloma and other cancers. Chronic CIPN is a dose-dependent mainly sensory polyneuropathy with a symmetric stocking and glove-like distribution. The most common symptoms are tingling, numbness and loss of position sense.

Neuropathic pain is seen in a subgroup. Symptoms may develop in the acute or subacute phase but can also develop weeks or months after ended treatment and may be associated with reduced quality of life, anxiety, and depression. The diagnosis is based on history, neurological examination supplemented by a series of tests.

The mechanism behind CIPN is complex with multiple modes of action. Some of the chemotherapeutic agents act on microtubule formation, others compromise mitochondrial function and there by axonal transport systems. Other drugs have effects on the nerve terminals or on the dorsal root ganglion itself.

Treatment of CIPN is difficult. There are no causal treatment available so one is left with symptomatic treatment. So far only one study has demonstrated a beneficial effect of SNRI agents. However many of the existing trail suffer from Methodological problems that may explain the failure to find an effect. There is now a need for identifying risk factors for the development of CIPN so that proper preventive strategies can be implemented.