

In the name of God

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Paclitaxel Induced Peripheral Facial Nerve Pulsy.

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Abstract:

Combination of taxane-platinum therapy is the first line chemotherapy in ovarian cancer. Peripheral sensory motor neuropathy is a well-defined side-effect of taxane therapy. We want to present a case of reversible paclitaxel induced unilateral peripheral facial nerve pulsy.

Keywords: Paclitaxel, facial nerve pulsy, Ovarian Cancer

Introduction:

The first line chemotherapy in ovarian cancer is a combination of taxane-platinum therapy. Peripheral sensory motor neuropathy is a well-defined side-effect of taxane therapy.^(1, 2) In 1999, R.T. Lee et al, from the United States, reported the event of bilateral facial nerve pulsy as a side-effect of single

cycle, high-dose paclitaxel chemotherapy (825 mg/BSA), in a case of breast cancer which was recovered spontaneously after 23 months. R.T. Lee et al, noted that their case had received high-dose paclitaxel chemotherapy after ten cycles of standard dose paclitaxel therapy (cumulative total dose 3200 mg), and had a grade II peripheral neuropathy

before administration of high -dose paclitaxel therapy.⁽³⁾

Bruno Damascelli et al, investigated the effectiveness of intraarterial chemotherapy with paclitaxel in albumin nanoparticles in 23 patients with advanced SCC of the tongue. They administered intraarterial chemotherapy with paclitaxel in albumin nanoparticles (dosage 150-230 mg/BSA) 2-4 cycles in a 3 week interval. In their study, 2 patients (8.6%) developed reversible facial nerve palsy.⁽⁴⁾ We want to present a case of unilateral peripheral facial nerve palsy after 4 cycles of chemotherapy with standard dose paclitaxel (175mg/BSA) and carboplatin (AUC= 6) in a case of stage III epithelial ovarian cancer.

Case Report:

A 56 y/o female was diagnosed with stage III epithelial ovarian cancer. Past medical history was negative for any co-morbid disease. After TAH & BSO, debulking surgery and systemic chemotherapy including standard dose paclitaxel (175 mg/BSA over 6-8 hour) and carboplatin (AUC=6) were started and repeated every 3 weeks. After the third cycle of chemotherapy she developed mild bilateral peripheral neuropathy characterized with numbness and tingling in hands and feet and after the 4th cycle she complained of worsening numbness and tingling in her hands and feet. 2 weeks later she had been visited by a neurologist and he administered Vitamins (A, B1, E), Amytriptiline and Gabapentin. The numbness and tingling in her hands and

feet diminished, but she developed left-sided peripheral facial nerve palsy. Brain CT scan with contrast was normal without evidence of tumoral involvement. We switched her chemotherapy regimen to Taxoter and Carboplatin and after 3 weeks peripheral facial nerve palsy was resolved spontaneously.

Results:

In this case we saw an event of reversible unilateral peripheral facial nerve palsy, following bilateral peripheral neuropathy after 4 cycles of standard dose paclitaxel (175 mg/BSA) and carboplatin (AUC=6). We thought that peripheral facial nerve palsy may be a cumulative side effect of paclitaxel therapy even in standard doses.

Conclusion:

Bilateral facial nerve palsy as a complication of high-dose paclitaxel therapy was reported by R.T. Lee, et al in 1999.⁽³⁾ Bruno Damascelli, et al reported 2 cases of facial nerve paralysis as a side effect of paclitaxel in albumin nanoparticles which were administered to 23 patients with advanced SCC of the tongue.⁽⁴⁾ In this experience, we found unilateral reversible peripheral facial nerve palsy as a cumulative side effect of standard doses of paclitaxel therapy.

Discussion:

Paclitaxel (Taxol) is an antitumor agent which is derived from the western Yew tree, *taxus brevifolia*.⁽⁵⁾ Paclitaxel causes a peripheral neuropathy which is predominantly a sensory type. Neurophysiologic studies showed that a

primary pathogenic mechanism is the disruption of microtubules in neurons that leads to axonal degeneration and demyelination.⁽²⁾ Paclitaxel has toxic effects on the body of neurons, Schwann cells, and axons which leads to disturbances in axonal transportation and demyelination.⁽⁷⁾ However, motor neuron involvement is mild and subclinical and characterized by loss of deep tendon reflexes and mild distal weakness.^(6, 8) Patients with underlying preexisting neuropathic conditions including: diabetes mellitus, congenital conditions and alcoholism are at risk for the development of Taxol-induced neuropathy.⁽²⁾ Paclitaxel-induced neuropathy has shown to be related to paclitaxel dosage; to the duration and schedule of infusion^(2,5); and to the combined use of other neurotoxic agents such as cisplatin in chemotherapy regimens.⁽²⁾ In this case of ovarian cancer we saw reversible peripheral facial nerve palsy as a side effect of standard - dose paclitaxel chemotherapy.

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