

Hand and foot Syndrome after taking Docetaxel in Cancer patients

Docetaxel is an important chemotherapeutic agent used in the management of many solid tumors. It interferes with microtubules, which are part of the internal structure of cells needed during dividing; this leads to cell death [1].

Docetaxel may cause frequent side effects like myelosuppression, neuropathy, alopecia, fluid retention and hypersensitivity, but is also associated with foot and hand syndrome (HFS) [2].

There are many case reports of docetaxel-induced HSF particularly when it given in dose 75mg/m² or higher or when it given in dose-dense regimen (increase the frequency) [3]

HSF also have many names like (*palmar-plantar erythema, acral erythema, Bergdorf's reaction*) is a dermatological toxicity caused by many anticancer drugs one of them is Docetaxel (13.8%) [4], the symptoms are graded according to National Cancer Institute (NCI) and World Health Organization (WHO), it usually starts as a localized numbness, dysesthesia, accompanied by swelling and discomfort, in severe cases it can cause, ulceration, desquamation [5].

R. Gurumurthi and R. Nimmagadda have demonstrated in a case report that a 52-yr-old female patient with metastatic breast carcinoma was referred with painful red skin lesions and tingling sensation over the palms and soles diagnosed as grade 3 HFS after completing 2 cycles of docetaxel 60mg/m² although she took dexamethasone ,ranitidine and antihistamine as premedication [6].

There are many ways to manage and prevent worsening of HFS symptoms. Prevention methods are using cold compression, avoid hot bathes, apply emollient creams and avoid walking bare foot. For treatment we can use corticosteroid creams and reduce the dose or stop temporary the chemotherapeutic agents in addition to adjuvant therapy like pain killer and anesthetics [7].

In conclusion, foot and hand syndrome is rare and serious side effect and the studies shown that it depends on dose and frequency of chemotherapeutic agent.

References

- [1] cancer organization , Last Medical Review: 03/26/2014, accessed in 4/4/2014, <http://www.cancer.org/treatment/treatmentsandsideeffects/guidetocancerdrugs/docetaxel>.
- [2] Docetaxel: Drug information, accessed in 4/4/2014 , http://www.uptodate.com.lib.just.edu.jo/contents/docetaxel-drug-information?source=search_result&search=Docetaxel&selectedTitle=1~150
- [3] Farhat HM, Nagi S, Saghir EL, Shamseddine AI. Hand foot syndrome with docetaxel: A five case series. *Ann Saudi Med.* 2008;**28**:374–7.
- [4] Chu CY, Yang CH, Yang CY, Hsaio GH, Chiu HC. Fixed erythrodysesthesia plaque due to intravenous injection of docetaxel. *Br J Dermatol.* 2000;**142**:808–11
- [5] Priya Rastogi, Marc E. Buyse, Concurrent Bevacizumab with a Sequential Regimen of Doxorubicin and Cyclophosphamide Followed by Docetaxel and Capecitabine as Neoadjuvant Therapy for HER2– Locally Advanced Breast Cancer: A Phase II Trial of the NSABP Foundation Research Group. *Clinical Breast Cancer*, august 2011; **11**, 228–234
- [6] Ravichandran Gurumurthi, Ramesh BV Nimmagadda, Docetaxel-induced Hand and Foot Syndrome in a Patient with Metastatic Breast Carcinoma, *indian journal of dermatology, Indian J Dermatol.* 2013 Sep-Oct; **58**: 380–382
- [7] Hand-Foot Syndrome or Palmar-Plantar Erythrodysesthesia, accessed in 4/4/2014, <http://www.cancer.net/navigating-cancer-care/side-effects/hand-foot-syndrome-or-palmar-plantar-erythrodysesthesia>

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