



Victoria Falls - Africa

PIC QUESTION OF THE WEEK: 9/29/08

Q: Please describe the characteristics of hand-foot syndrome associated with the use of antineoplastic agents?

A: *Hand-foot* syndrome is an adverse effect attributed to a number of antineoplastic agents. The medical term for this condition is palmar-plantar erythrodysesthesia (PPE). It has also been referred to as acral erythema, palmar-plantar erythema, and the Burgdorf reaction. PPE usually manifests itself in the hands and feet as a tingling sensation followed by burning pain, symmetrical erythema, and pronounced swelling. The hands are generally more severely involved than the feet. Drugs most frequently associated with PPE include doxorubicin, liposome-encapsulated doxorubicin, fluorouracil, capecitabine, docetaxel, and cytarabine. PPE associated with these medications is dependent both on the individual and cumulative dose administered to the patient. The exact mechanism by which these drugs cause PPE is unknown, but hypotheses include the accumulation of drug metabolites in the skin or secretion of these metabolites by sweat glands. Some of the signs and symptoms of PPE are thought to be related to dilation of blood vessels in the hands and feet. The median time-onset for this reaction is approximately 80 days, but varies from case to case. It appears that elderly, female patients have a significantly higher risk for developing PPE. Treatment options for this complication of chemotherapy are limited. Symptoms may be reduced through lifestyle modifications such as wearing loose clothing and shoes, elevating the affected area to decrease edema, or applying cold compresses. Some suggest that the use of various medications may prevent the progression of symptoms. These consist of topical corticosteroids and emollients such as Udderly Smooth[®], Bag Balm[®], etc. Pyridoxine (vitamin B₆) may be beneficial for both the treatment and prevention of PPE. Cyclooxygenase-2 (COX-2) inhibitors such as celecoxib have also been evaluated for their ability to decrease the inflammatory response associated with PPE. Unfortunately, there is little data to support the routine use of any of these therapies in the management of this reaction to chemotherapy. The only proven methods for treating PPE are dose reduction or discontinuation of the offending agent. When the antineoplastic agent causing the reaction is discontinued, symptoms typically resolve in one to two weeks. PPE is a significant complication of many commonly used antineoplastic agents. Because treatment options are limited, care must be taken to adhere to dosing guidelines and closely monitor patients for changes in their hands and feet.

References:

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