

Protective effect of vitamin A on ARA-C induced intestinal damage in mice

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ABSTRACT

Background. Cytarabine (ARA-C) has been used for many years in the treatment of patients with leukemia and lymphoma. Gastrointestinal ulceration and mucositis are two of the well-known side effects of ARA-C. We set out to investigate whether vitamin A (VA) can help prevent ARA-C-induced mucosal lesions in mice.

Materials and methods. Mice were divided into 5 groups. Group I (control group) received only saline; group II received ARA-C plus saline; group III received ARA-C plus VA; group IV received ARA-C plus a lipid solution, and group V received VA alone. VA (5000 IU/kg) was administered orally to the mice once daily for 7 days. ARA-C (3.6 mg) was administered intraperitoneally for 5 days to groups II, III and IV, starting on the third day of VA treatment. Intestinal segments from the proximal end of the jejunum of treated mice were isolated.

Results. There was improved mucosal integrity, less necrosis and increased villus length with advanced mucosal proliferation in crypts in the VA plus ARA-C group when compared to the ARA-C groups without VA.

Conclusion. We conclude that VA has a protective effect against ARA-C-induced mucosal damage in mice.

Key words: cytarabine, mucosal damage, protection, mice, vitamin A.

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