

RADIATION RECALL

Radiation recall is an inflammatory reaction that develops in a previously irradiated body part after administration of certain promoting agents. The “recall” usually occurs on first exposure to a particular trigger drug. The time period between radiation exposure and the administration of a recall trigger drug may be from several days to years. The exact mechanism of toxicity is unknown. Although the skin the most frequently reported site of reaction, the literature does report cases involving the lung, esophagus/head and neck, small intestine, muscle, and central nervous system.

SITES OF RADIATION AND REACTIONS

Skin	Desquamation, erythema, edema, hemorrhage, necrosis, pain, pruritis, ulceration, urticaria-like lesions, and vesiculation.
Lung	Pneumonitis
Muscle	Myositis
Esophagus	Mucositis
Head and Neck	Supraglottitis
Small Intestine	Enteritis/Colitis
CNS	Optic neuritis, brainstem radionecrosis

DRUGS IMPLICATED IN RADIATION RECALL

Actinomycin D	Dacarbazine	Etoposide	Interferon α -2b	Paclitaxel
Arsenic Trioxide	Docetaxel	5-Fluorouracil	Melphalan	Tamoxifen
Bleomycin	Doxorubicin	Gemcitabine	Methotrexate	Vinblastine
Capecitabine	Edatrexate	Hydroxyurea	Oxaliplatin	

GRADING

NCI Common Toxicity Criteria Radiation Recall Dermatitis:				
Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
No Event	Faint erythema or dry desquamation	Moderate to brisk erythema or a patchy moist desquamation, mostly confined to skin folds and creases; moderate edema	Confluent moist desquamation, \geq 1.5 cm diameter, not confined to skin folds; pitting edema	Skin necrosis or ulceration of full thickness dermis; may include bleeding not induced by minor trauma or abrasion

TREATMENT

Treatment generally depends on organ system involved. Most reported cases of radiation recall improved with discontinuation of offending agents. Treatment success with corticosteroids (IV, PO or topical), in addition to treatment withdrawal, is also reported.

Reference: [Azria D, et al. *Cancer Treat Rev* 2005;31:555 – 70.](#)