Radiation Recall Dermatitis
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Introduction:
Radiation Recall Dermatitis, (RDD), also known as “Recall Phenomenon”, “Radiation Recall” or “Recall Dermatitis” is an inflammatory condition of the skin that develops on a previously irradiated area after the administration of certain radiation-inducing drugs. The exact pathogenesis of this entity is currently unknown, but some investigators have suggested that it may be the result of vascular damage, epithelial stem cell sensitivity or drug hypersensitivity. We present the case of a woman with radiation recall after treatment with Doxorubicin.

Case Report:
The patient is a 67-year-old female who was diagnosed in 2009 to have a stage IV, T4bN1M1G2 infiltrating ductal carcinoma of the right breast metastatic to the osseous system, lung, liver, retroperitoneal lymph nodes and maybe adrenal gland. Tissue diagnosis was established via a needle core biopsy of the right breast mass on February 20, 2009 showing grade 2 infiltrating ductal carcinoma, estrogen receptor positive 90%, progesterone receptor positive 20% and HER-2 FISH negative 1.2. She was treated with tamoxifen for 1 year up until March 2010. Once weekly taxol was given from June 22, 2010 to September 24, 2010. Avastin every 2 weeks was started on July 6, 2010 to September 24, 2010. She received palliative external beam radiation to her very symptomatic lumbar sacral spine metastasis to a dose of 3600 cGy TD starting September 28, 2010 and completing on October 25, 2010 with fairly good clinical pain improvement. Following the external beam radiation she was started on Doxil and Cytoxan on November 2, 2010. Three weeks later she developed severe rebound radiation dermatitis in the lumbar sacral portal from the Doxil. The radiation dermatitis became moist and she had to be managed in the hospital Wound Care Center.

Discussion:
Radiation Recall Dermatitis, (RDD), was first reported by D’Angio in 1959 in a patient receiving Actinomycin D. As stated before, RDD describes a reaction in a previously irradiated area after the administration of certain pharmacologic agent, typically an antineoplastic compound. This reaction has been described mostly with cytotoxic chemotherapy, including antimetabolites, taxanes, anthracyclines and alkylating agents. Other drugs have also been implicated such as tamoxifen, simvastatin and antibiotics. The time between the administration of the inducing agent and the development of skin lesions varies from hours to several days, although there have been reports of interval periods of up to 15 years. According to Putnik et al, the median time between the conclusion of radiation treatment and the development of skin lesions is 39 days.

The diagnosis of RDD is easily made based on the history of radiation therapy, the exposure to an agent and the characteristic topography of the cutaneous lesions. The skin reactions may include erythema, edema, maculopapules, vesicles formation and desquamation. Infrequently, severe skin necrosis is also seen. Histologically, epidermal dysplasia, necrotic keratinocytes, and a mixed inflammatory reaction characterize involved areas, with some cases showing psoriasiform dermatitis. Other dermal changes include fibrosis, vasodilatation and the presence of atypical fibroblasts.

The pathogenesis of RDD is unclear and several hypotheses have been proposed. One of them involves an idiosyncratic and localized hypersensitivity reaction after a traumatic effect of radiation onto the skin cells. Other proposition suggests that radiation may induce some local changes on the skin cells, more specifically epithelial stem cells that ultimately alter the pharmacokinetics of certain agents resulting in RDD. However, the mechanism and the etiology of the condition remain unknown.

Treatment is not always necessary. Minor cases resolve with the use of topical steroids and/or anti-inflammatory drugs. Spontaneous resolution may also occur. In severe cases, treatment with systemic steroids, oral or intravenous and discontinuation of the inciting agent are strategies to prevent recurrences. In some cases, rechallenge with the same agent does not cause recurrence or clinical worsening.

References
The Mountainside Hospital Marketing, Public Relations, Community Health, Volunteer Services and Information & Reception Team

The Marketing, Public Relations, Community Health, Volunteer Services and Information & Reception Departments support the strategic goals of Mountainside Hospital by assisting in the development and delivery of health care services and communicating the availability of these services to target audiences. The staff is actively engaged in promoting the value and benefits of receiving care at Mountainside, building relationships with the community and learning about their healthcare needs. Marketing determines consumer needs and develops programs and services designed to satisfy those needs, consistent with the strategic goals of Mountainside Hospital. Public and Media Relations develops programs and activities that will promote favorable relationships with civic organizations, schools, agencies, places of worship, and gain positive media coverage for the hospital. Government Relations activities are designed to promote the hospital’s position and interests with government leaders. Community Health/Relations implements programs that help to improve the health status of the communities we serve by offering educational lectures, screenings, fairs and major events.

We direct community members to relevant health care services at Mountainside and build relationships with civic organizations, schools, agencies and places of worship. Web Site activities involve the maintenance of an effective web presence to communicate the availability of and build preference for Mountainside Hospital services. Volunteer Services coordinates the work of individuals who volunteer their services to Mountainside Hospital in order to supplement the service delivery system and improve efficiencies and patient satisfaction. Information and Reception monitors Main Lobby traffic flow and activity. We guide vendors and visitors to designated areas and manage patient floral and mail deliveries.

References (continued)


Recent Headlines in Cancer Publications

1. Breast feeding reduced breast cancer risk in women with family history of the disease.
2. Local excision alone enough for highly selected patients with low/intermediate-grade DCIS.
3. BRCA testing in women with familial, personal history of ovarian cancer would reduce cases in first degree relatives.
4. Addition of hormone therapy to radiation therapy improved overall survival in patients with prostate cancer.
5. NCCN guidelines retain bevacizumab use in metastatic breast cancer.
6. Women should avoid pregnancy for up to 12 months after rituximab therapy.
7. Erythropoietin-stimulating agents may be linked to poorer ovarian cancer outcomes.
8. Six months of neoadjuvant ADT significantly reduced mortality in locally advanced prostate cancer.