Long-term consequences of Hodgkin lymphoma therapy on T-cell lymphopoiesis

Titre	Long-term consequences of Hodgkin lymphoma therapy on T-cell lymphopoiesis
Type de publication	Article de revue
Auteur	Pellier, Isabelle [1], Renier, Gilles [2], Rakotonjanahary, Josué [3], Audrain, Marie [4], Berardi, Elsa [5], Gardembas, Martine [6], Clavert, Aline [7], Moles, Marie Pierre [8], Proust-Houdemont, Stéphanie [9], Reguerre, Yves [10], De Carli, Emilie [11], Georgin-Mege, Martine [12], Garo, Erwan [13], Blanchard, Simon [14], Miot, Charline [15], Picard, Capucine [16], Delneste, Yves [17], Fischer, Alain [18], Tanguy-Schmidt, Aline [19], Jeannin, Pascale [20]
Editeur	Elsevier
Type	Article scientifique dans une revue à comité de lecture
Année	2015
Langue	Anglais
Date	2015/03
Numéro	3
Pagination	818 - 820.e4
Volume	135
Titre de la revue	Journal of Allergy and Clinical Immunology
ISSN	0091-6749

Résumé en anglais	To the Editor: Hodgkin lymphoma (HL) is a hematologic malignancy of the lymphoid tissue that mainly affects young adults.1 Standard treatment for subdiaphragmatic stages I and II combines chemotherapy regimen followed by dose-reduced involved-field irradiation (including mediastinum). Adverse effects of treatment include early death, second neoplasm, and organ dysfunction.1 The consequences of HL treatments on thymus involution remain poorly explored.2 Here, we investigated the long-term effects of thymic irradiation on the naive T-cell compartment in 30 patients with HL, 7 to 19 years after mediastinal radiotherapy (all in complete remission of Hodgkin disease), compared with 60 age- and sex-matched healthy controls (HCs) (summarized in Table E1 in this article's Online Repository at www.jacionline.org [21]). Lymphocyte distribution was analyzed by using fluorescence-activated cell sorting, and thymic output was analyzed by measuring (1) T-cell receptor excision circles (TRECs) and (2) the frequency of naive thymic CD4+ CD45RA+ CD31+ T cells, which have higher TREC levels than do peripherally expanded CD4+ CD31− central T cells3 and 4 (see this article's Methods section in the Online Repository at www.jacionline.org [21]). Results showed that the CD3+ and CD3+ TCRαβ+ T-cell counts were significantly reduced in patients with HL than in matched HCs (P = .02 and P = .01, respectively), while the total lymphocyte counts were similar in both populations (Fig 1, A, and Table I). The CD4+ T-cell counts were dramatically lower in patients than in HCs (P < .001; mean decrease of 32%) while the CD8+ T-cell counts were equivalent in both groups. Patients with HL exhibited (1) an increase in B-cell counts (P = .01), with a decreased frequency of memory B cells, indicating an increase in naive B-cell counts, and (2) a marginal increase in natural killer cell frequency (P = .04) (Fig 1, A, and Table I).
URL de la notice	http://okina.univ-angers.fr/publications/ua9236 [22]
DOI	10.1016/j.jaci.2014.08.048 [23]
Lien vers le document	http://dx.doi.org/10.1016/j.jaci.2014.08.048 [23]

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